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ABSTRACT

One of a series of eleven curriculum manuals which cover the four transportation topics of public transportation, transportation and the environment, transportation safety, and bicycles for elementary, secondary, and adult levels, this manual covers the public transportation topic for grades 9-12. It contains forty-nine learning activities grouped into nine mini-units. Each mini-unit consists of a lesson plan component and an individual learning activities component. The first mini-unit provides a survey of issues related to public transportation; the rest are as follows: developing skills to identify and use public transportation, learning to make choices among different transportation modes, learning how to promote the use of public transportation; learning to seek redress of grievances over public transportation service, learning to evaluate the financing of public transportation, examining groups with travel problems, learning about the history of public transportation, and research projects on public transportation. A final section offers additional activities that may be used to evaluate or supplement evaluation of an activity or mini-unit. Also included are references for further study resources, suggestions for integrating the units into other subject areas, and for reproduction of role profiles, game boards, maps, and other distributable materials. (A curriculum guide, CE 014 028, is also available for use with the manuals.) (TA)

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RIDE ON!

MINI-UNITS AND LEARNING ACTIVITIES ON PUBLIC TRANSPORTATION

for

grades 9 through 12

by

Peter Finn
Jane Lawson
Peter Wolff

Abt Associates Inc.
Cambridge, Massachusetts 02138

Abt Publications
1977

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FOREWORD

TEACHING TRANSPORTATION: AN OVERVIEW

> Nearly everything Americans do, from mailing a postcard to walking on the moon, depends on transportation. Transportation is essential for the supply of food, clothing and shelter, for national defense and employment, for education and recreation, for the international exchange of goods and services.*

While every American is provided with the necessities and amenities of modern life through an intricate freight-carrying network, we think of transportation most readily in terms of moving people, not products, and for good reason. Millions of us commute to work every day by car, bus, train, or subway. Moreover, 21 million youngsters travel on school buses every day. Americans use a variety of transportation modes for other purposes, including shopping, recreation, tourism, and moving. The average family changes residence once every five years and makes use of one of the many thousands of for-hire companies that provide domestic surface transportation. In addition, Americans travel more than 1.7 trillion miles by passenger cars or trucks every year, while 250 trains cover 26,000 miles and servivce 484 communities, with more than 7 million people annually using the New York to Washington run alone. There are also 950 intercity bus companies whose 20,6000 vehicles travel 1.1 billion miles each year, while commercial aircraft transport over 210 million passengers annually.

Americans are highly dependent on transportation services for recreation purposes, too. Not only are vehicles used to get to places of entertainment, many vehicles are themselves forms of recreation. For example, there are approximately 7.3 million registered boats in the country, not counting rowboats and canoes. Seven and one-half million motor homes, truck campers, and travel and camping trailers are on the roads. Snowmobiles, dune buggies, and home-built vehicles have become widespread in the past few years.

Americans also relax on two-wheeled vehicles: there are 100 million bicycles and nearly five million motorcycles in the country, many of

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*John Burby, *The Great American Motion Sickness*, Little, Brown and Co., (Boston: 1971), page 3.

which are used for commuting as well as recreation.

The most frequently used form of transportation in the nation, however, is walking. We sometimes forget that pedestrians use the single most common mode of travel.

Finally, the overwhelming importance of transportation in our lives must be assessed not only in terms of movement of goods and people but also in relation to the millions of jobs transportation provides. Transportation facilities and vehicles require manufacturers, builders, operators, and mechanics, while also creating thousands of employment opportunities in related industries, from foundries that produce steel for vehicles to insurance companies that provide automobile insurance to health care systems that treat travel-related injuries.

For all these reasons it is important for students to become aware of transportation as it affects their lives, to learn to be wise purchasers and users of transportation goods and services, and to develop skills to promote constructive use and appropriate expansion of all forms of transportation in their communities and beyond.

In particular, consumers should become informed about (1) improving and using public transportation, (2) harmonizing transportation with the environment, (3) understanding transportation safety, and (4) appreciating the importance of bicycling. By examining these four major topics, students will learn, for example, to identify the best methods for commuting to school and work; to travel, when possible, in ways that minimize adverse transportation effects on the environment; and to purchase and use transportation vehicles and facilities in the safest possible manner.

CURRICULUM MATERIALS AVAILABLE

This Manual is one in a series of volumes that treat the four transportation topics of Public Transportation, Transportation and the Environment, Transportation Safety, and Bicycles at different grade levels. These volumes were developed by Abt Associates Inc. under contract to the U.S. Department of Transportation, Office of Consumer Affairs. The following eleven manuals and a curriculum guide on transportation consumer education are currently available:

- Travel On! Mini-units and Learning Activities on Transportation for Grades K-3
- Travel On! Mini-units and Learning Activities on Transportation for Grades 4-6
- Transportation Consumer Education for Adults: Mini-units and Learning Activities
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 6-9
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 9-12
- Ride on! Mini-units and Learning Activities on Public Transportation for Grades 6-9
- Ride On! Mini-units and Learning Activities on Public Transportation for Grades 9-12
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 6-9
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 9-12
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 6-9
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 9-12
- Transportation Consumer Education: A Curriculum Guide for K-12 and Adult

These volumes may be ordered from

Abt Publications
55 Wheeler Street
Cambridge, Massachusetts 02138

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The National Highway Traffic Safety Administration (NHTSA)

The Office of Education, Bureau of Occupational Education (OE/BOE)

The Office of Environmental Affairs in the Department of Transportation

The Urban Mass Transportation Administration (UMTA) in the Department of Transportation

The United States Coast Guard

The Federal Aviation Administration (FAA)

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Despite the considerable assistance from these sources, only the authors are in any way responsible for errors, approaches, and biases in the final product.

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INTRODUCTION

WHAT'S IN THE MANUAL

Teaching about Public Transportation, Grades 9-12, contains 49 learning activities grouped into nine mini-units. Each unit has two components:

1. *A lesson plan* which provides a suggested day-by-day sequence of learning activities and goals.
2. *Individual learning activities* describe in detail how to implement the exercises suggested in the lesson plan.

Ten spirit masters are also provided at the end of the Manual for use with the activities.

The first mini-unit provides a survey of issues related to public transportation, while the rest focus on a specific public transportation issue. The seven activities in the survey mini-unit all reappear in subsequent units. Brief descriptions of all the activities in the Manual are provided on pages 14 and 15.

A final section of activities is called "Assessment Activities." This section offers additional activities that may be used to evaluate or supplement your evaluation of an activity or an entire mini-unit.

Also included at the end of the volume is a Bibliography of suggested teacher and student materials.

HOW TO USE THE MANUAL

This Manual is designed as a resource volume of activities and background materials to be used in ways compatible with your needs and those of your students.

The mini-units and individual learning activities may be integrated into your curriculum at many points and to meet many purposes.

- In *consumer education and home economics*, the activities are useful in view of their treatment of transportation issues from the perspective of the consumer.
- In *social studies*, the activities enhance learning about one's community. They aid in understanding the importance of citizen participation in government, and they broaden the study of transportation itself.

- In *science*, the activities are useful in discussing the impact that public transportation and carpooling have on the environment.
- *Health and safety units* can be related to the Manual's emphasis on pollution of the environment.
- *Language arts* skills are integral to all the mini-units, since the activities are designed to develop and reinforce students' capacities to listen, speak, write, observe, and analyze.

You will find that the introduction to each mini-unit sums up the reason for teaching that topic in your classroom. After reading these mini-unit instructions, you will have the background for deciding which mini-unit or mini-units you will teach. In examining the mini-units, you should feel free to make substitutions or deletions in the mini-units and in the learning activities whenever this is necessary to meet your teaching objectives.*

Here are several methods for adapting the mini-units and learning activities to teach public transportation in your classroom.

You can read the lesson plans for all mini-units and *select one or more lesson plans* to integrate into your course. Having made your selection, read the detailed activity descriptions which follow the lesson plans for specific instructions on implementing the activities in the mini-unit or units you have chosen. This method of using the Manual is most appropriate if you wish to concentrate in some depth on one or more specific aspects of public transportation.

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*Some activities involving comparisons between different modes of public transportation (for example, buses vs. subways) may appear usable only in communities in which there is more than one form of public transportation. However, students in such communities can still conduct most of these activities by *imagining* they live in a community (their own or some other town) in which there are at least two modes of public transportation. Students need to study different transportation modes even if their own communities have no public transportation or provide only one or two modes because general knowledge of public transportation is important to all citizens in a highly technological and mobile country such as ours. On a more practical level, students may be able to benefit concretely from a study of public transportation if they some day move to communities where multiple modes are available or vote for state or national candidates who have taken a stand on public transportation issues or vote on referenda relating to public transportation financing.

If you prefer to provide your students with a survey of issues related to public transportation touching on several aspects of the field, you can *implement the first mini-unit* which provides just this type of overview. For your own information, you may wish to skim the lesson plans of the other mini-units for additional materials that will enrich your survey presentation.

You can *develop your own mini-unit* consisting of activities that you select from several mini-units in the Manual.* If you wish to do this, read the capsule descriptions of each activity provided on the chart on the following pages. This chart will show you, at a glance, the teaching method and content of each learning activity offered in the Manual.

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*You can also have your students leaf through the activities and select ones they would like to pursue individually or in small study groups.

MINI-UNITS AND ACTIVITIES

Activity #	*Activity Description*	*Class Time (periods)*
	Mini-unit 1 **Surveying the field of public transportation**	
1	Students discuss what the field of public transportation is composed of.	½-1
2	Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.	1½-2
3	Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.	1
4	Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation.	1
5	Students discuss seeking redress of grievances for unsatisfactory public transportation service.	½-1
6	Students role-play and then discuss situation involving vandalism against public transportation vehicles.	½-1
7	Students debate the cost-benefits of different forms of public transportation and of improvement in public transportation service.	1-3
	Mini-unit 2 **Developing skills to identify and use public transportation**	
8	Students discuss what the field of public transportation is composed of.	½-1
9	Students assess their travel needs and evaluate whether and when they should use public transportation.	1-2
10	Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.	1
11	Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages.	½-1
	Mini-unit 3 **Learning to make choices among different transportation modes**	
12	Students take a trip using both public and private transportation.	1
13	Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles.	1-3
14	Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.	1
15	Students examine their own attitudes toward decreasing their use of automobiles and increasing their use of public transportation and carpools.	½-1½
	Mini-unit 4 **Learning how to promote the use of public transportation**	
16	Students discuss whether, when, and how to encourage other people to use public transportation and carpools.	½-2
17	Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation.	1
18	The class discusses actions being taken by the Federal government to improve and promote public transportation in America.	½-1
19	Students discuss ways to encourage increased use of public transportation and carpooling in their community.	1-2
20	Students discuss whether the government should promote the use of public transportation and, if so, how.	½-1
	Mini-unit 5 **Learning to seek redress of grievances over public transportation service**	
21	Students discuss seeking redress of grievances against unsatisfactory public transportation service.	½-1
22	Students role-play scenarios involving operators and users of public transportation vehicles.	1
23	Students research methods for filing complaints with different public transporation authorities and how each agency handles consumer complaints.	½-1
24	Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided.	1
25	Students role-play and then discuss situation involving vandalism against public transportation vehicles.	½-1

MINI-UNITS AND ACTIVITIES (CONTD.)

Activity #	*Activity Description*	*Class Time (periods)*
	Mini-unit 6 **Learning to evaluate the financing of public transportation**	
26	The class discusses action being taken by the Federal government to improve and promote public transportation in America.	½-1
27	Students discuss and then investigate how transit authorities and government agencies do and should allocate their funds.	1-2
28	Students debate the cost-benefits of different forms of public transportation and of improvements in public transportation service.	1-3
29	Students role-play legislators deciding what public transportation improvements or expansion to finance in their community.	1-2
30	Students discuss the extent to which public transportation should be subsidized by the government.	½-2
	Mini-unit 7 **Examining groups with travel problems**	
31	Students research why public transportation service in many communities is inadequate.	2-4
32	Students discuss the problems of rural transportation and ways of solving them.	½-2
33	Students interview various groups who have difficulty using public transportation.	½-3
34	Students identify the ways in which public transportation meets and fails to meet the needs of physically and socioeconomically disadvantaged groups.	½-1
	Mini-unit 8 **Learning about the history of public transportation**	
35	Using library resources, students, singly or in groups, conduct research on public transportation in the United States during the last 150 years.	2-3
36	From the library and other sources students collect information on various public transportation disasters.	1-2
37	Small groups of students research the past and present condition of public transportation in cities throughout the world.	1-3
	Mini-unit 9 **Research projects on public transportation**	
38	Students plan a public transportation system for their community.	3-5
39	Students plan the construction of a new or expanded public transportation facility or system, weighing its environmental effects.	1-4
40	Students interview public transportation system employees and administrators to learn what constraints may make it difficult to improve service.	1-2
41	Students poll the public on its positive experiences with and complaints against public transportation.	1½-3
42	Students poll friends, neighbors, and strangers to learn what public transportation system and improvements the community needs.	2-4
43	Students develop a program to introduce the young, elderly, handicapped, and nonusers in their community to public transportation.	1½-2
44	Students research the structure, powers and decision-making process of public transportation authorities.	1-2
45	Students research methods of citizen participation designed to promote public transportation.	1½-3
46	Students discuss improving public transportation by regulating the commuting behavior of the public.	1
	Assessment Activities	
47	Teacher and students evaluate class concerns about and attitudes toward public transportation.	½-1
48	Students evaluate the course.	½-1
49	Students answer oral or written questions on public transportation.	½-1

WHY TEACH ABOUT PUBLIC TRANSPORTATION

The Problems

American consumers are the purchasers and users of nearly $124 billion per year worth of personal transportation goods and services. The mobility and convenience of the automobile have created an enormous imbalance in our transportation modes and a neglect of public transportation. Patronage of public transportation services (buses, trolleys, subways, and trains) declined from 23 billion in 1946 to 6.95 billion in 1975--a decrease of 67 percent--while the number of motor vehicles increased from 31 million in 1945 to 133.7 million in 1975--an increase of over 300 percent. Of the 133.7 million vehicles in 1975, 107.3 million were passenger cars.

A shift in emphasis from automobiles to public transportation is essential to provide a means of transportation for the one in five families living in cities and one in four families living in small towns who do not own a car; the people who do own cars but who are on countless occasions unable to use them due to personal incapacitation, loss of license, loan of the car, or car repairs; and the elderly and the permanently handicapped who cannot drive. This will improve the quality of the environment by decreasing the level of air/noise/visual pollution, since even with improvements in the control of auto emissions, the motor vehicle is still a major pollutant of our environment, particularly in congested cities. It would help eliminate massive traffic congestion: 77 percent of the nation's work force commutes to work everyday by private automobile; 70 percent of these people drive alone; 32 urban areas account for 37 percent of all motor vehicles, contributing to heavy traffic congestion. Increased use of public transportation would reduce auto-related accident fatalities, which have killed more people on our nation's highways than the total number of Americans killed in wars fought by this country. It would also reduce the energy consumption of motor vehicles by 25 percent: 18 percent of the nation's energy is consumed by motor vehicle transportation, of which nearly 80 percent is for personal travel by car, truck, or bus. While Americans reduced their vehicle fuel consumption in 1974 and 1975 as a result of the immediate fuel crisis, early 1976 patterns indicate an increase in vehicle fuel consumption.

In cases where increased use of public transportation may not be possible, more efficient use of the automobile is necessary, including carpooling and trip consolidation.

The Solutions

The solutions depend on Federal and state governments, which must promote balanced transportation by providing assistance for planning, development, and financing of improved transportation systems and enact legislation which would be of assistance to the public transportation area; on local transit authorities, who must generate greater use of their services by making public transportation more accessible and attractive to the daily traveler while finding solutions to their severe financial problems; and on citizens/consumers, who must become informed about local transportation problems and participate in their solution, to take advantage of available public transportation services, form and participate in carpools, and make more efficient use of the automobile. Finally, solutions depend on teachers, who must guide students to a better understanding of the causes and effects of transportation problems and of possible solutions. Transportation consumer education can offer the student a unique opportunity to develop awareness and skills essential to acquire responsible transportation habits and to play a role in supporting and improving transportation in the community.

This Manual focuses on teaching public transportation by developing consumer skills that are particularly appropriate to grades 9-12. The learning activities are designed to

- Promote student awareness of what the concept of public transportation means
- Provide students with the knowledge and skills needed to use public transportation effectively
- Provide students with the knowledge and skills needed to form and participate in carpools and make efficient use of the automobile

- Develop student appreciation for usses related to public transportation by studying transportation needs in the student's own community

- Guide students toward obtaining information about public transportation services in their own community

- Develop student understanding of the advantages and disadvantages of using public transportation compared to other modes of travel

- Promote awareness of the excellent safety record of public transportation compared to other modes of travel and of the need for still further improvement in this regard

- Stimulate students to include considerations of energy conservation and pollution prevention--as well as the more familiar criteria of cost, comfort, safety, and speed--when deciding how to travel to a given destination

- Make students aware of the severe imbalance that currently exists between overuse of automobiles and underutilization of public transportation

- Make students aware of how this imbalance affects the environment and limits opportunities for efficient, inexpensive, and safe travel

- Stimulate students to consider promoting increased use of public transportation and carpools and to learn how to do so effectively

- Develop student awareness of who can effect improvement in public transportation service and how

- Provide students with the knowledge, skills and motivation needed to effectively seek redress of grievances

- Develop awareness in students of how public transportation should meet the needs of both the general public and also specific groups with travel handicaps, including children, the elderly, the handicapped, and rural dwellers

- Promote understanding of who is responsible for changes in public transportation, how changes might be effected, and what the difficulties are in trying to improve public transportation service

- Teach students how public transportation is financed, why most transportation systems suffer from a chronic lack of operating funds, and what recent moves have been made to provide additional funding

- Provide information about the history of public transportation which will help students understand the present condition of public transportation service by placing it in historical perspective

MINI-UNITS
AND
LEARNING ACTIVITIES

MINI-UNIT 1

SURVEYING THE FIELD OF PUBLIC TRANSPORTATION

NOTE: The activities in this introductory mini-unit are all selected from the units that follow it.

This first mini-unit is designed for instructors who may not have the time to use all the in-depth units that follow and instead want to expose their students to several aspects of public transportation education. This unit can also be used in conjunction with or as an introduction to one or more of the following units.

The unit treats basic issues associated with the use of public transportation, including

- Definitions of public transportation
- The advantages and disadvantages of using public transportation
- Why Americans seem to use their automobiles so much and public transportation and carpools so little
- Consumer complaints against poor public transportation service
- The financing of public transportation

You can, of course, browse through the activities in the other mini-units and substitute one or more of them for those we have provided in this survey unit. You may find activities that are more appropriate to the needs of your particular students than the ones included in this survey.

MINI-UNIT 1 LESSON PLAN

Surveying the field of public transportation

Activity #	*Activities*	*Class Time*
1[a]	DESCRIPTION: Students discuss what the field of public transportation is composed of. GOAL: To understand the expression "public transportation" and what is involved in using public transportation.	½-1 period
2[a] Spirit Master #1	DESCRIPTION: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular. Goal: To know the advantages and disadvantages of using different modes of transportation.	1½-2 periods
3[b]	DESCRIPTION: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation. GOAL: To be aware of the many reasons people drive cars and of which reasons are appropriate.	1 period
4[c]	DESCRIPTION: Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation. GOAL: To be aware of methods by which people can be encouraged to use public transportation.	1 period

[a] This activity also appears in Mini-unit 2.

[b] This activity also appears in Mini-unit 3.

[c] This activity also appears in Mini-unit 4.

MINI-UNIT 1 LESSON PLAN (CONTD.)

Surveying the field of public transportation

Activity #	*Activities*	*Class Time*
5[d]	DESCRIPTION: Students discuss seeking redress of grievances for unsatisfactory public transportation service. GOAL: To know when and how to register complaints for unsatisfactory public transportation service.	½-1 period
6[d]	DESCRIPTION: Students role-play and then discuss situation involving vandalism against public transportation vehicles. GOAL: To understand the problems caused by vandalism against public transportation vehicles.	½-1 period
7[e]	DESCRIPTION: Students debate the cost-benefits of different forms of public transportation and of improvement in public transportation service. GOAL: To be able to evaluate the advantages and drawbacks of potential improvements in a public transportation system.	1-3 periods, plus possible out-of-class time

[d] This activity also appears in Mini-unit 5.

[e] This activity also appears in Mini-unit 6.

Total Class Time: 6-10 periods.

ACTIVITY #1*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss what the field of public transportation is composed of.*

Goal:

To understand the expression "public transportation" and what is involved in using public transportation.

Concepts Treated:

- Public transportation refers to particular types of travel whose nature can be specifically described.
- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.

ACTIVITY

Begin the activity by asking students for their definition of public transportation and then revise it for the purposes of the particular mini-units which will be studied. The broadest definition consistent with all the activities in the manual is

> Public transportation refers to all modes of travel operating within a community (as opposed to between states) involving vehicles that are publicly owned (for example, by the government) or are owned by private businesses (for example, a taxi company) as opposed to vehicles owned by private citizens, including automobiles, bicycles, and recreational vehicles. Public transportation also includes the facilities (for example, bus stop shelters and ferry docks) serving public transportation vehicles and their passengers.

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*This activity also appears in Mini-unit 2.

Having defined the field of study, the class then identifies the major aspects of public transportation that can usefully be studied *from the perspective of the transportation user (consumer).* Supplement the students' catalog of topics worth studying with the items in the following list, all of which are treated in one or more of the following mini-units.

What are the public transportation modes and facilities available in the United States and in our community?

1. What are the modes? bus? train? subway? taxi? ferry? light rail (trolleys)? carpooling? other? (such as demand-responsive, cable cars, aerial tramways)

2. How can we learn what services are available?

3. Why doesn't our community have some of these modes?

4. Has ridership increased, declined, or remained constant over the past decades? Have there been corresponding changes in the availability of public transportation services? (The use of public transportation decreased from a high of 23.2 billion passengers in 1945 to 6.56 billion in 1972. During this time, the number of passenger vehicle miles declined from 3.2 billion to 1.7 billion miles. Since 1972, the use of public transportation and the number of passenger vehicle miles have increased gradually. In 1975, it is estimated that there were 6.95 billion passengers on public transportation and the number of passenger vehicle miles reached nearly 2 billion. You might ask students to research whether these trends are consistent with public transportation in your areas. (See also the chart at the end of this activity.)

5. If your community has only one mode of public transportation, is it sufficient? If not, how should it be expanded? Or should another mode be installed, rather than expanding the present mode? If your community has no public transportation, does it need some?

6. What plans are underway for the provision of public transportation in the future? If no plans exist, what modes does the class think are needed? Why? (See Activity 19 for examples of government plans in the field of public transportation.)

How can and should people decide when to use public transportation and which modes of public transportation to use? To what extent does the decision depend on

1. Knowledge of public transportation?

2. Availability of public transportation?

3. Convenience, speed, cost, safety, and comfort?

4. Familiarity with the operations of public transportation?

5. Feelings about public transportation and automobiles, such as inappropriate fears of getting lost and strong desires to use a fast or glamorous automobile?

6. Concerns about the social, environmental, and energy-depleting effects of excessive reliance on automobiles and concerns about attaining a balance in the use of transportation modes?

How does one go about using public transportation?

What actions can citizens take to improve public transportation or have it installed if it does not exist?

1. Is it important for citizens to become involved in decisions involving public transportation? Why or why not?

2. What types of actions can citizens take to improve public transportation services--for example, persuading friends and family to use them more often or more appropriately? participating in transportation planning? engaging in political action such as voting and petitioning public officials? seeking redress of grievances? initiating carpools?

3. How can citizens also promote more efficient use of the automobile?

4. About what public transportation issues can and should citizens become involved--for example, safety? availability of services? discriminatory services? funding problems? fares? environmental considerations?

5. What actions can citizens take to meet the grievances operators of public transportation have against citizens, such as vandalism and discourtesy?

Evaluation Method:

Students describe the components of the field of study, "public transportation education," and indicate why each component is important.

Variations and Supplementary Activities:

Class can break into small groups, with each group responsible for developing its own definition of public transportation and identifying its own list of topics which can be considered to fall within the field of public transportation education.

Students can interview public transportation officials in their community about what they think the components of the field are and how they define public transportation. Students compare the officials' definitions with their own and resolve any discrepancies. A public transportation official can also be invited to class to discuss these issues.

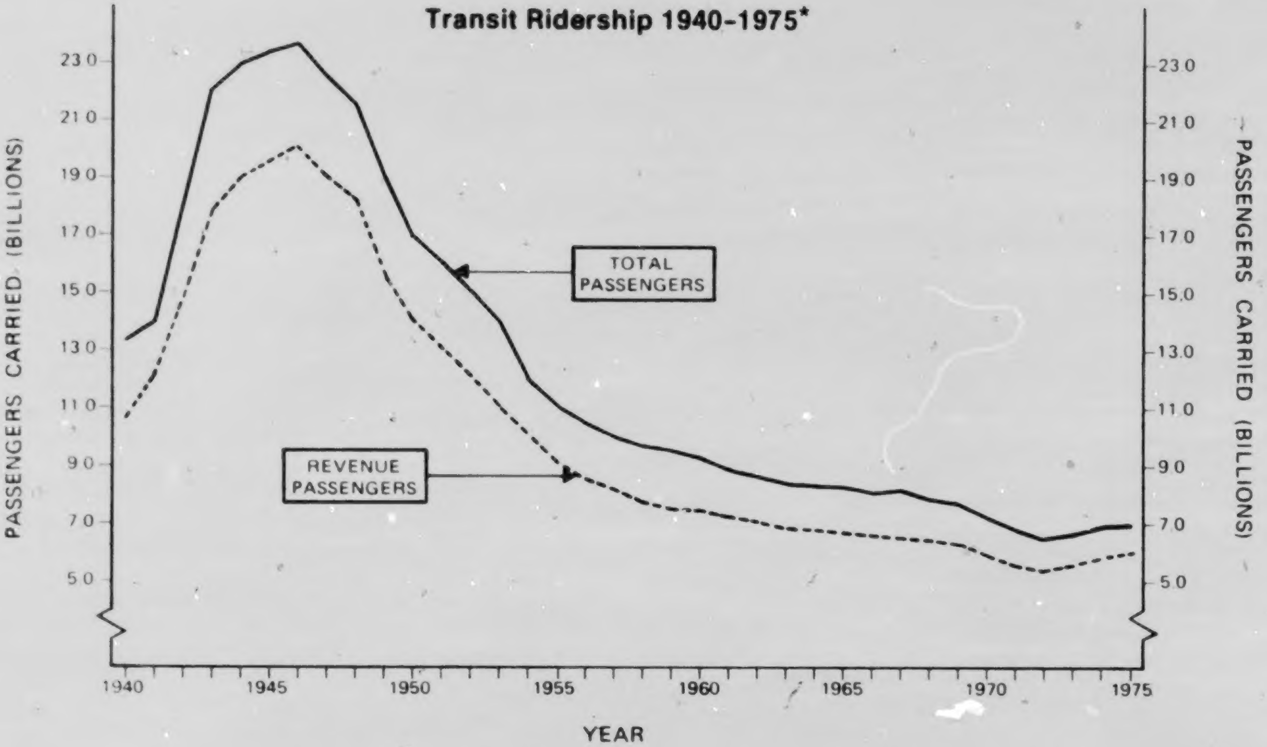

*Chart taken from *Transit Fact Book*, courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #2*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: 1½-2 periods

Capsule Activity Description: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.*

Goal:

To know the advantages and disadvantages of using different modes of transportation.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Most modes of transportation have both advantages and disadvantages.
- A major advantage in using public transportation is that such patronage helps attain a balance in the use of all transportation modes.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Duplicate the check sheet provided on Spirit Master #1 and distribute two copies to each student. Each student fills in one, placing check marks in the boxes to indicate good features they feel different modes of public transportation offer *in general*, without special reference to their community. For example, taxis in general offer a fair amount of privacy; subways use energy relatively efficiently. Students then think *of their community* and then place check marks in the boxes of the second copy of the chart to indicate good and bad features they feel different modes of public transportation offer *in their community*.

In communities with only one mode of (or without) public transportation, students should consider

1. What *would* be the pros and cons of various modes that might be installed in their community, and

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*This activity also appears in Mini-unit 2.

2. Why there is only one mode of (or no) public transportation.

The class then breaks into small groups. Each group compares its members' sheets and discusses discrepancies among them until it is able to develop (using two more blank sheets) a consensus on the positive and negative features of public transportation in general and in their community.

Each group presents its results to the class and the opinions of all the groups are compared. Disagreements among groups are discussed and explained. Follow-up discussion is held to consider which of the seven (or more, if students added to the list) general features of public transportation are most important and why--that is, which of these features would be most likely to motivate a citizen to use public transportation instead of another. The features can be rank ordered from most influential to least important.

Be sure to point out that one of the major needs in most American communities today is to achieve a balance in the use of all transportation modes. To the extent that people increase their use of public transportation and rely less on the use of automobiles they will be contributing to the attainment of a balanced transportation system in their community.

You should also point out that, as a supplement to this approach to creating a balanced transportation system, the public can also make more efficient use of the automobile by using carpools, engaging in trip consolidation, and practicing energy-conserving driving techniques.

Conclude the activity by inviting an official of a local public transportation system to come to class (preferably with a bus) to react to and expand on the students' conclusions regarding the good and bad features of using public transportation.

Evaluation Method:

Students describe the advantages and disadvantages of traveling to a particular destination in their community by bus, subway, trolley, taxi, ferry, or carpool, depending on the availability of these modes of transportation where they live.

Variations and Supplementary Activities:

For some classes, it may be best to use this activity *after* students have researched some of the advantages and disadvantages of public transportation so that they have a fund of information to rely on in filling out and discussing the check sheets.

This activity can be simplified or made more complex in a number of ways. For example, students can fill in one chart as a class, considering only their own community's public transportation facilities. Students can also refine the sublistings under each of the seven features to include time of day travel occurs, type of person doing the traveling (e.g., handicapped? child?), weather conditions, or comparisons with walking or bicycling as alternative modes of travel. For example, taking a ferry may be relatively more expensive for the poor than for the middle class. Using a taxi may be less convenient for minority persons who are sometimes refused rides than for whites who are routinely picked up. Taxis may be more comfortable to use in cold, heat, rain, or snow than buses for which one may have to stand outdoors awaiting their arrival. On the other hand, taxis are expensive. Buses may not run frequently, after a certain hour.

Students can adapt the chart into a questionnaire and poll the community to learn its attitudes toward the advantages and disadvantages of using public transportation.

Students can insert private modes of transportation at the top of the chart and draw comparisons between them and different forms of public transportation. See example below:

	Bus	Train	Subway	Taxi	Light Rail (Trolleys)	Ferry	Automobile	Walking	Bicycle	Motorcycle	Carpool

Students in a community without public transportation (or with only one mode) can pick a community about which they have some information (e.g., nearest big city) that is different from their own community in terms of size and types of public transportation available and complete the chart for that community. Students compare and discuss results.

Students can discuss how carpooling and more efficient use of automobiles help the environment but may involve inconvenience.

ACTIVITY #3*

Mini-unit Topic: Surveying Public Transportation **Approximate Class Time:** 1 period

Capsule Activity Description: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.*

Goal:

To be aware of the many reasons people drive cars and of which reasons are appropriate.

Concepts Treated:

- Many people have emotional as well as practical reasons for driving cars.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and considered in deciding how to travel.
- Consumers need to evaluate the appropriateness of using automobiles to satisfy emotional needs in light of the harmful effects on the environment that excessive automobile use causes and the imbalance in the use of transportation modes that it creates.

ACTIVITY

Students write their response to the following instructions and scenario:

> It was the biggest event in my life. I had been looking forward to it for at least four years, and the last year was an agony of waiting for my dream to come true: a car! At last I'd be able to do all the things I'd been waiting for.

Write down the reasons *why you think this teenager was so eager to drive.*

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*This activity also appears in Mini-unit 3.

During the following class period, students break into small groups and are given written instructions to read each other's papers and discuss one or more of the following issues:

1. What respnses did you give for why the teenager was so happy to be able to drive?

2. What other reasons do people have for driving cars?

3. Which of these reasons involve the use of cars as an essential, enjoyable, and important means of transportation that *public transportation or carpooling could not provide nearly as well?*

4. Explain why people prefer cars to public transportation.

5. Is it desirable and possible to change Americans' attitudes about cars, and if so, how?

6. What arguments are there for using public transportation and carpools in certain circumstances rather than automobiles?

7. Now could these arguments be presented to the motoring public effectively and who should be responsible for educating the public to the importance of reducing its reliance on automobiles (or making more efficient use of the automobile [as in carpools]), increasing its use of public transportation, and helping to attain balance in the use of all transportation modes?

The groups report their conclusions to the class and respond to comments and questions from the class and you. Raise for discussion additional reasons some people have for traveling by car rather than by public transportation or carpool, such as privacy; the convenience of door-to-door service; the comfort of regulated heating and uncrowded, available seats; mobility and independence; apparent cost-effectiveness since no money is paid during most trips; speed as it is often less time consuming than other travel modes; impressiveness in that the driver can show off a big, expensive, sporty, or otherwise ego-building car; flexibility in that the driver can stop and get out or take side trips at will; or no public transportation is available.

Evaluation Method:

Students describe the arguments for and against Americans' current use of automobiles in role-played debates between advocates of automobile travel and proponents of public transportation.

Variations and Supplementary Activities:

Students can poll friends and neighbors on reasons they wanted a driver's license when they became of age.

Students can discuss whether a reduction in the use of automobiles (or more efficient use of the automobile) would have adverse effects on the economy and on employment.

Students can research and discuss the role automobile manufacturers and the highway lobby (a congressional pressure group representing automobile manufacturers, bus companies, truckers, and other groups with interests in highway construction, maintenance, and improvement) may have played in encouraging America's alleged preoccupation with and preference for the automobile--for example, by analyzing automobile advertisements.

Students can analyze automobile advertisements to learn to what extent they play to the emotional and psychological aspects of driving a car. Have car advertisements changed as a result of increased gasoline prices and the energy shortage?

ACTIVITY #4*

Mini-unit Topic: Surveying Public Transportation **Approximate Class Time:** 1 period

Capsule Activity Description: Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation.*

Goal:

To be aware of methods by which people can be encouraged to use public transportation.

Concepts Treated:

- It is often difficult to persuade other people to use public transportation and carpools.
- Some methods for persuading others to use public transportation and carpools are more effective than others.

ACTIVITY

Students role-play persons encouraging others to use public transportation. See sample role profiles at end of activity. After each role-play, participants read their role profiles to the class and discuss the feelings they had while role-playing--in particular, "neighbors," "friends," and "relatives" discuss their emotional reactions to being asked to increase their use of public transportation or carpools. They also discuss which approaches used by the other role players were most effective in motivating them to switch to public transportation and why. Nonparticipants discuss what they would have said had they been involved.

After completing the role-plays, the class should be encouraged to write its own profiles and act them out.

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*This activity also appears in Mini-unit 4.

Evaluation Method:

Students evaluate which methods used in their role-plays for encouraging others to use public transportation appeared to work the best and why.

Variation and Supplementary Activity:

Students can debate such topics as, "Resolved, that people who use public transportation should encourage others to do the same."

Sample Role Profiles

Bus

Public transportation supporter

You are the 14-year-old daughter of a mother who lives in the suburbs and works eight miles away in the city. You're upset with your mother becuase she drives all the way to town and back every day, rather than take the bus, and pays $3.50 to park her car. If she rode the bus, she would have to walk three blocks, wait five to ten minutes, and pay 50¢ one-way for the ride, but that's not so bad--you do it every weekend when you go into town to the movies. You think your mother is contributing to air pollution, wasting gasoline, and ruining her nerves in the traffic. You've finally worked up the courage to confront her about it. You have just sat down to dinner. What do you say?

Public transportation nonuser

You live in the suburbs with your husband and two children, a 14-year-old daughter and 17-year-old son. You drive to work in the city every day, even though it's an eight-mile drive, because you dislike sitting in buses--when you can find a seat. Besides, you would have to walk three blocks to get to the bus and changes buses on the way. You'd also have to stand in good and bad weather to wait for each bus; they run only once every 15 minutes during rush hour. You would rather pay the $3.50 to park your car every day than take the bus. Your daughter has made critical remarks to you once in a while about how you're wasting gasoline and how you come home complaining about the traffic. Now that you've just sat down to dinner, she looks as though she's going to bring up the issue again. If she does, what will you say?

Carpool

Carpool Proponent

You have joined a carpool at work in an effort to save gasoline and money. Many of the other people in the factory have done the same thing. It's even turned out to be fun! You get to chat with your co-workers on the way in and back, so the drive is more interesting than it used to be. But the guy who works at the bench next to you is still coming to work in his car, all the way from Hillville, 22 miles away. This really concerns you, because here you are doing your share to conserve gasoline and he's not. There are at least two other workers who could form a carpool with him, so you've decided not to keep your feelings to yourself. It's the morning coffee break and you have just approached him to suggest he join a carpool. What do you say?

Carpool opponent

You live in Hillville, a small town, and work about 20 miles away in a factory. You drive to work every day, even though many of your fellow workers use carpools. You drive your own car because you can't stand to wait for someone to come pick you up, to wait for people to get together before you can leave work, and to drive out of your way to pick up other people. Each trip would take about 15 minutes longer for you in a carpool. You'd also have to put up with the poor driving habits of some of your fellow workers. Anyway, as long as you pay for your gasoline, why should anyone care? But here comes that guy who works at the bench next to you who's always talking about his carpool. You wonder if he's going to say something about your not being in a carpool. He'd better not!

Train

Public transportation supporter

You, Connie DiVellis, ride to work every day on the local commuter train. You find it's relaxing, inexpensive ($1.25 one way), and doesn't take too long. You used to drive the 40 miles to work every day, until you had to take the train because your car broke down one morning. When you realized it was so easy and enjoyable, you decided to keep on taking the train even after your car was fixed. It does take you an hour and a quarter to get to work by train, whereas it took only 50 minutes by car, but you are able to take advantage of the train ride to read the newspaper and relax. Your good friend at work, Otto Lopez, takes his car to work every day from about the same distance from another suburb. Sometimes, when he gets to work he complains about the traffic, or the weather, or the problems he had starting his car. You think it would be a good idea both for him and for solving the pollution, energy, and traffic problems if he would come to work by train. It's now your lunch break and you think it's a good time to encourage him to stop taking his car to work and use the commuter train instead. You have just taken a bite out of the cream cheese and olive sandwich your husband packed for you. After you swallow the first bite, you're ready to begin. What do you say?

Public transportation nonuser

You, Otto Lopez, commute to work every day by automobile. It takes you about 50 minutes, because you live 20 miles away from your job. Most of the time you like being able to drive, even if it does cost you $2.75 to park the car in a near-by parking lot. Sometimes, driving is a hassle, however, for example in bad weather and when you nearly get into an accident. But you feel you have no other way to get to work. The commuter train is too expensive ($1.15 one way) and it would be a nuisance to have to wait for it every day. With your car, you can just hop in and get going! You're having lunch right now with your best friend at work, Connie DiVellis. You know she takes the train to work every day, and sometimes you wonder if you shouldn't, too. But, you think, as you bite into a tunafish salad sandwich, it's so pleasant in your car to turn on the radio and take off down the freeway. Connie seems about to tell you something, and you wonder if it's about the fact that she travels by train to work.

ACTIVITY #5*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss seeking redress of grievances for unsatisfactory public transportation service.*

Goal:
To know when and how to register complaints for unsatisfactory public transportation service.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Consumers need to decide for themselves which inadequacies in public transportation service warrant seeking redress of grievances.
- Consumers are more likely to secure redress of grievances if they identify complaint methods that are likely to be successful.
- Complaints to public transit authorities should be of sufficient detail to permit proper investigation by transit authorities.
- Public transportation officials may not be able to redress all consumer grievances.

ACTIVITY

Students discuss seeking redress of grievances over a variety of dissatisfactions with public transportation services. They can approach the topic of redress from four different but related perspectives:

1. Over what *issues* should consumers seek redress of grievances?

2. What should and could their *goals* be in seeking redress?

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*This activity also appears in Mini-unit 5.

3. What *methods* would be effective for seeking redress?

4. What *constraints* may be operating which may make it difficult or impossible to seek or obtain redress?

Students in small groups can discuss one or more of these issues, preferably in the order in which they are listed above, since that is the thought process through which a public transportation user should progress in order to successfully register a complaint. Each of these issues is discussed in more detail below. (In communities which have no public transportation, students who have traveled to other communities and used their public transportation systems can discuss any dissatisfaction they may have had.)

Students can be asked to decide (in their groups) what would have to happen to them in using public transportation that would make them feel they had a *right* to complain. Students should be encouraged to be specific in their "complaints" (for example, include the bus number, route, and time of day). Examples might be frequent tardiness in departure or arrival times; sloppy, dirty, or unsanitary conditions (such as unclean restrooms on vehicles or in stations, dirty windows, dirt on floors of vehicles or stations, and food on seats; failure to supply adequate services or supplies (such as lack of toilet paper and other bathroom supplies, enough ticket takers to avoid waiting lines, or too few cars on a train or buses on a route, resulting in crowding on available cars or buses or having to wait for the next train or bus); equipment in inoperative or difficult to operate condition (such as windows that are broken, do not open, or open with difficulty; toilets that fail to work; and broken rental lockers in bus or train stations); uncomfortable conditions (such as ripped, broken down, or loose seats; inadequate heating or air conditioning; crowding; and poor lighting); safety hazards (such as dangerous driving practices, including tailgating, speeding, weaving in and out of traffic, running red lights, and not stopping for railroad tracks if required by law; not carrying or using appropriate equipment, including snow tires in snow, fire extinguisher, and first-aid kit; faulty equipment, including seats not properly fastened and inoperative or poorly operating windshield wipers; not coming to a complete stop when allowing passengers to board or disembark; and attacks by pickpockets or robbers); and unpleasant operator attitudes and behaviors (such as anger, discourtesy, or insulting language; irresponsibility in terms of starting the trip on time; making unauthorized stops or detours along the route; and smoking in violation of vehicle rules). Having specifically identified examples of grievances for which they feel a passenger complaint would be justified, groups can generalize about what the nature of the grievance must be before a complaint is justified. For example, do all grievances about safety justify a complaint? Do grievances justify complaints only when several passengers are bothered? Groups report their justifiable grievances to the class and discuss the general reasons for which it is appropriate to register a complaint.

Groups then discuss what *remedies* they would want to seek for each of (or several of) the grievances they felt warrant complaints. For example, if one of their grievances is that a bus does not carry a first aid kit, their goal may simply be to have one provided. However, if the grievance is that a driver operates the vehicle unsafely, there are a number of goals a citizen could seek to achieve in registering a complaint, such as enforcing safe driving practices, having the driver fired, or having the driver arrested for the traffic offenses committed.

Students can next identify the *methods* by which passengers can secure redress of grievances. The methods selected will vary with the nature of complaint and the goals sought in redressing the grievance. There are two steps in obtaining redress of grievances. The first is to *identify who has the ability and the authority to redress the grievance*--that is, who is in a position to make the desired change or require someone else to make the desired change. Possible people include vehicle operators, crew maintenance persons for vehicles and facilities, administrators of public transportation services at the "headquarters," regulatory agencies (including police, public health, and safety boards), government agencies involved with health, safety, and transportation, and elected officials.

The second step is to decide *what methods will effectively accomplish redress*. Methods for obtaining redress of grievances include complaining in person; complaining by telephone or in a letter (sent return-receipt requested); phoning, writing to, or meeting with appropriate consumer protection organizations, business associations, legal groups, and governmental agencies; circulating petitions and forwarding them to one or more of the above groups or to the appropriate transportation authority; asking local media to publicize complaints in letters to the editors, articles, phone calls to talk shows, etc.; and demonstrations (such as sit-ins, rallies, and picketing).

Finally, students identify the *constraints* that make it difficult to seek or secure redress of grievances.

Evaluation Method:

Students role-play dialogues between "travelers" with complaints about public transportation service and "transit authority officials."

Variations and Supplementary Activities:

Students in small groups can select an actual grievance against a local public transportation service, discuss the best methods for seeking redress, and, if motivated, seek to have the grievance redressed.

Students can identify possible grievances nonpassengers may have against public transportation (such as excessive noise, air pollution, dangerous driving practices, and traffic congestion), discuss whether their grievances justify complaining and if so, decide to whom to complain and how.

Students can invite a public transportation official to class to discuss grievances the public may have against public transportation service, whether these complaints are justified, and if so, what, if anything is being done about them.

Students can investigate the complaints mass transit vehicle operators have against the public, including vandalism, rudeness, and unsafe behavior.

ACTIVITY #6*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students role-play and then discuss situation involving vandalism against public transportation vehicles.*

Goal:

To understand the problems caused by vandalism against public transportation vehicles.

Concepts Treated:

- Complaints against public transportation service must be seen in the context of abuse against transit vehicles by some citizens.
- Vandalism against public transportation vehicles reduces the level of public transportation service for all citizens who use it.
- Vandalism increases the operating costs of public transportation systems.

ACTIVITY

Two or more students role-play the scenario described in the role profiles at the end of the activity. (You may want to revise them first to reflect more closely actual conditions in the community.) Following the role-play; break the class into small groups to discuss one or more of the following issues:

1. What kinds of vandalism take place against public transportation vehicles (e.g., breaking windows, slashing seats, writing graffiti, stealing bus signs)?
2. What other kinds of activities do some people engage in that are destructive of the public transportation system (e.g., harassing passengers, harassing operators, yelling, swearing, fooling around, littering, fighting)?

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*This activity also appears in Mini-unit 5.

3. Who tends to engage in these activities (e.g., boys or girls; teenagers; adults)?

4. On what occasions and why do these people do this (e.g., after sports events, when kids are in a group, after drinking too much alcohol, to let off steam, to gain approval from friends, peer pressure, to satisfy sadistic urges, to rebel against authority, to express frustration at economic or social conditions)?

5. What effects do vanalism and other inappropriate public transportation behavior have on safety (distracting the driver, making a vehicle unsafe to use or drive, removing or defacing traffic signs), comfort, accessibility, and the costs of public transportation?

6. How can vandalism be prevented or reduced?

Small groups report their conclusions to the class and general discussion focuses on methods by which people can be encouraged to use public transportation appropriately and deterred from using it inappropriately. Examples of methods might be

- Provision of additional security measures, such as guards
- Discontinuation of service in areas where vandalism is uncontrollable
- Refusal to allow persons found guilty in court of having abused the system from using it in the future for a specified period of time
- Cancellation of events that seem to precede instances of vandalism (e.g., athletic events, rock music performances)
- Stringent control over access to alcohol at such events
- Educational campaigns in schools and the media describing the self-destructiveness of vandalism

These methods must be considered in terms of how effectively they could be enforced and whether they would lead to the abuse of civil liberties.

Evaluation Method:

Students write a flyer or poster, to be placed in the school library or office, explaining why vandalism of public transportation vehicles should not be committed.

Variations and Supplementary Activities:

Students can interview, or invite to class, officials and operators of the public transportation system.

Students can interview public transportation authorities on the expenses necessitated as a result of vandalism and report what they learn to the class.

Students in small groups can develop another set of role profiles around another vandalism issue and each group can then role-play one other group's exercise.

Sample Role Profiles

School Principal

Last night your school lost its semifinal game in the state school basketball tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. However, athletics are a big thing in your community, so you have to be careful that what you do doesn't damage the athletic program too much. And if you expel the students who were arrested, you'll have to deal with all their parents--and possible some angry people on the School Committee.

The meeting with the police chief, gym director, a basketball player on the team, and the transit authority administrator has just begun. What do you say should be done?

Transit Authority Official

Last night the school basketball team lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, you and the police chief have called a meeting this morning with the school principal, student council president, and gym director to discuss what should be done with five students who were arrested and to prevent a similar occurrence from happening again. In fact, this is the second year in a row this has happened, and you're determined it will not happen again. The town budget manager has threatened to reduce the amount of funding available for the bus system if it happens again. He argues, "Why should the citizens have to pay for repairing the buses and for providing bus service when these kids make it impossible for us to use buses safely and comfortably?" However, the bus system makes a lot of money from students who are passengers, so you don't want to lose their patronage, either. You feel if the police assigned an officer to every bus during events like this, the problem might be solved.

The meeting with the police chief, the gym director, the student council president, a basketball player on the team, and the school principal has just begun. What do you say should be done?

Basketball player

You are a sophomore guard on the school basketball team. Last night your school team lost its semifinal game in the state tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this happened, and you cannot afford to let it happen again. You desperately need a scholarship to go to college, and if you cannot play basketball--especially on a championship team--you may not be able to get one. Therefore, you think the students who were caught should be severely punished to set an example, and the gym director should make sure that kids don't bring beer into the gym. However, you feel you can't say these things too forcefully in front of the student council president, because he'll go around telling the other students that you wouldn't stand up for the kids and are thinking only of your scholarship.

The meeting with the police chief, gym director, student council president, transit authority official, and school principal has just begun. What do you say should be done?

Gym director

Last night, two state school basketball teams played their semifinal game in your gymnasium. Some of the kids from the team that lost had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot let it happen again. If it does, you are afraid you may lose your job, since it might be seen as your fault that the kids were able to bring beer into the gym. However, it's just about impossible for you to prevent this, since you can't frisk every student that comes into the gym nor can you keep an eye on them all during the games. Some of the kids even manage to hide their alcohol in the locker rooms and drink it there during half-time, when there are so many people milling around nobody can see what's going on. Therefore, you feel the solution is to have the school principal expel these students from the school as a lesson to other students.

The meeting with the police chief, student council president, basketball player, transit authority official, and school principal has just begun. What do you say should be done?

Police Chief

Last night the home town school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you want to prevent it from happening again. The town council has been accusing you and your staff of not doing their job to protect the community from kids making trouble for its citizens. The transit authority says you don't provide them with enough protection. The problem is, you feel it's the parents' responsibility to take care of these kids, not yours. Sure, you can throw the book at them and recommend they be sent to reform school or to jail, but there will be other kids next year who'll do the same thing all over again. Besides, once kids get drunk, there's nothing you can do to stop them from doing damage. Either the games should be canceled, there should be no audience, or the gym director should see to it that no beer is brought into the gym. However, you don't want to be responsible for getting the kids really angry. You've set up a community relations program with the town's teenagers, and if you come down hard on the basketball program or the students in the school you're liable to ruin all the good work you've done so far to improve police-teenage relations. Moreover, you don't have enough officers to patrol every bus, even if you wanted to.

The meeting with the gym director, a basketball player on the team, the student council president, the school principal and the transit authority has just begun. What do you say should be done?

ACTIVITY #7*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: 1-3 periods, plus possible out-of-class time

Capsule Activity Description: Students debate the cost-benefits of different forms of public transportation and of improvements in public transportation service.*

Goal:

To be able to evaluate the advantages and drawbacks of potential improvements in a public transportation system.

Concepts Treated:

- Most improvements in public transportation service involve financial and sometimes other costs as well as benefits.
- Citizens need to be able to evaluate the costs and benefits of potential improvements in public transportation service.

ACTIVITY

Begin the activity with a brief discussion of the concept of cost-benefit. Cost-benefit involves answering the questions "How much will it cost to achieve what specific benefits?" and "Are the benefits worth the cost?" Costs can be not only financial but also social and personal. For example, what would it cost to provide ten new buses? Who would pay the costs? What would the benefits be from such a development: how many more passengers would be served, how much rush hour crowding would be relieved, and what new neighborhoods could be served? Before promoting a public transportation improvement, citizens need to consider the cost-benefits of the measure they are advocating to determine whether their goal is worth seeking.

You can provide an example of a cost-benefit analysis by discussing with the class what the relative advantages and disadvantages are of light rail as oposed to buses--for example:

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*This activity also appears in Mini-unit 6.

- Light rail is cheaper to operate: several cars can be hooked together and run by a single operator.

- Light rail requires heavy initial expenses for track and roadbed construction.

- Light rail requires track maintenance.

- Mechanical failure on one streetcar can halt an entire line.

- Light rail can travel quickly, with few or no traffic delays.

- Buses have a high operating cost (gasoline, repairs, etc.) and depreciate more quickly than streetcars.

- Buses are flexible: they can travel down most streets and be rerouted as new travel needs occur.

- Buses pollute; light rail is nonpolluting because it runs on electricity.

After this initial cost-benefits discussion, small groups of four to eight students briefly research (if necessary) and then debate the pros and cons of a different public transportation improvement or expansion. Each group chooses an issue and decides who is going to defend which position on the issue. Group then splits into two or three debate groups and each subgroup researches its point of view. Subgroups can conduct research by discussing and refining arguments for their position and predicting the opposing side's arguments and developing counterarguments; reading available literature; and interviewing appropriate members of the community and officials in governmental, private, and public agencies.

After completing research, groups agree on how much time to allow each side to present its arguments, rebuttals, and concluding remarks. Each group decides who will judge the debate (other students? other teachers? parents?) and how the debate will be scored.

Students can create debate topics around hypothetical public transportation improvements or select improvements that have recently been instituted or are currently under consideration in their own community or elsewhere in the country. Students debate the issues in terms of the cost-benefits involved. Sample hypothetical issues which students can debate follow:

- Resolved, that all the buses should be air-conditioned.

- Resolved, that special bus lanes should be provided on all major highways during rush hour.

- Resolved, that cars should be banned from the central business district between the hours of 7 and 10 on weekday mornings.

- Resolved, that parking meter rates should be doubled.

- Resolved, that a tunnel (bridge) should be built under (over) ______________________lake (river, etc.) for use by rapid transit trains.
- Resolved, that the subway should be instituted in the ____________ section of town.
- Resolved, that fares on the buses should be doubled (halved, eliminated for the elderly, etc.)
- Resolved, that schools should conduct at least a one-week unit on public transportation at the elementary, junior, and senior high levels.
- Resolved, that ferry service should be provided between __________ and _______________.
- Resolved, that the town's buses be redesigned to accommodate the handicapped.
- Resolved, that buses should (not) institute an exact fare system.
- Resolved, that each subway train (or bus) should have an armed security guard on it at all times.
- Resolved, that youngsters and adults who vandalize public transportation facilities should be prosecuted to the fullest extent of the law.
- Resolved, that public transportation should be expected to operate at a deficit and that it is the government's responsibility to support it from tax revenues.
- Resolved, that the Federal (state, city, etc.) government should actively publicize and promote the use of public transportation.
- Resolved, that increased use of public transportation will occur only if use of the automobile is penalized.

Evaluation Method:

Students apply cost-benefit analyses to recent, current, or proposed improvements in a local or well known public transportation system.

Variations and Supplementary Activities:

After each topic is debated, one or both teams can make an appointment with an appropriate government agency to present their conclusions and solicit responses.

Activity can be conducted as a class discussion.

Students can discuss *who* should determine whether the costs outweigh the benefits on a particular public transportation improvement.

Students can research what the cost-benefits have been on earlier public transportation improvements.

Students can research the political process by which a public transportation improvement was instituted, blocked, or instituted and then rescinded.

Students can invite representatives of a community or government agency to class to discuss the class position on various possible public transportation improvements.

MINI-UNIT 2

DEVELOPING SKILLS TO IDENTIFY AND USE PUBLIC TRANSPORTATION

This mini-unit is a basic one, designed to help students develop two sets of skills: the ability to identify public transportation and the ability to use it. Many students are not aware of what "public transportation" refers to and do not realize, for example, that taxis, ferries, and commuter trains are forms of public transportation. Other students who may be familiar with public transportation modes may be unaware of how to use them--where they are located in their community, what areas they serve, how much they cost, and how to select the right bus or subway for a given trip.

The unit also focuses on carpooling, a semi-public transportation mode, as a method for reducing the harmful effects of excessive automobile use on the environment and conserving energy resources.

Specific concepts treated in the unit include

- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.
- People tend to lack awareness of the full extent to which they depend on automobiles for their travel needs.
- People tend to ignore the possibilities for using public transportation and carpools for some of their travel needs.
- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- A major advantage in using public transportation is that such patronage helps attain a balance in the use of all transportation modes.

Two of the activities in this unit (Activities 9 and 10) may not appear usable in communities in which there is no public transportation or only one mode of public transportation. However, students in such communities can--and should--still conduct these activities by *imagining* they live in a community (their own or some other town) in which there is at least one mode of public transportation.

Mini-unit 3, which follows this unit, focuses on learning to make choices among *different* transportation modes. That unit can logically be implemented after this unit. The two units together form a natural learning progression from identifying to using to making choices among transportation modes.

MINI-UNIT 2 LESSON PLAN

Developing skills to identify and use public transportation

Activity #	*Activities*	*Class Time*
8[a]	DESCRIPTION: Students discuss what the field of public transportation is composed of[a] GOAL: To understand the expression "public transportation" and what is involved in using public transportation.	½-1 period
9	DESCRIPTION: Students assess their travel needs and evaluate whether and when they should use public transportation. GOAL: To be aware of how we normally travel and learn to identify times when it is appropriate to use public transportation.	1-2 periods
10[a]	DESCRIPTION: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular. GOAL: To know the advantages and disadvantages of using different modes of transportation.	1 period
11	DESCRIPTION: Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages. GOALS: To be aware of carpooling as a potentially important transportation mode with distinct advantages and disadvantages.	½-1 period

[a] This activity also appears in Mini-unit 1.

Total Class Time: 3-4½ periods.

ACTIVITY #8*

Mini-unit Topic: Identifying and Using Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss what the field of public transportation is composed of.*

Goal:

To understand the expression "public transportation" and what is involved in using public transportation.

Concepts Treated:

- Public transportation refers to particular types of travel whose nature can be specifically described.
- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.

ACTIVITY

Begin the activity by asking students for *their* definition of public transportation and then revising it for the purposes of the particular mini-units which will be studied. The broadest definition consistent with all the activities in the Manual is:

> Public transportation refers to all modes of travel which operating within a community (as opposed to between states, etc.) involving vehicles that are publicly owned (for example, by the government) or are owned by private businesses (for example, a taxi company) as opposed to vehicles owned by private citizens, including automobiles, bicycles, and recreational vehicles. Public transportation also includes the facilities (for example, bus stop shelters and ferry docks) serving public transportation vehicles and passengers.

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* This activity also appears in Mini-unit 1.

Having defined the field of study, the class then identifies the major aspects of public transportation that can usefully be studied *from the perspective of the transportation user (consumer)*. Supplement the students' catalog of topics worth studying with the items in the following list (all of which are treated in one or more of the following mini-units).

What are the public transportation modes and facilities available in America and in our community?

1. What are the modes? bus? train? subway? taxi? ferry? light rail (trolleys)? carpooling? Other (such as demand-responsive, cable cars, aerial tramways)?

2. How can we learn what services are available?

3. Why doesn't our community have some of these modes?

4. Has ridership increased, declined, or remained constant over the past decades? Have there been corresponding changes in the availability of public transportation services? (The use of public transportation decreased from a high of 23.2 billion passengers in 1945 to 6.56 billion in 1972. During this time, the number of passenger vehicle miles declined from 3.2 billion to 1.7 billion. Since 1972, the use of public transportation and the number of passenger vehicle miles have increased gradually. In 1975, it is estimated that there were 6.95 billion passengers on public transportation and the number of passenger vehicle miles reached nearly 2 billion. You might ask students to research whether these trends are consistent with public transportation in your area. (See also the chart at the end of this activity.)

5. If your community has only one mode of public transportation, is it sufficient? If not, how should it be expanded? Or should another mode be installed, rather than expanding the present mode? If your community has no public transportation, does it need some?

6. What plans are underway for the provision of public transportation in the future? If no plans exist, what modes does the class think are needed? Why? (See Activity 19 for examples of government plans in the field of public transportation.)

How can and should people decide when to use public transportation and which modes of public transportation to use? To what extent does the decision depend on

1. Knowledge of public transportation?

2. Availability of public transportation?

3. Convenience, speed, cost, safety, and comfort?

4. Familiarity with the operations of public transportation?

5. Feelings about public transportation and automobiles, such as inappropriate fears of getting lost and strong desires to use a fast or glamorous automobile?

6. Concerns about the social, environmental, and energy-depleting effects of excessive reliance on automobiles and concerns about attaining a balance in the use of transportation modes?

How does one go about using public transportation?

What actions can citizens take to improve public transportation or have it installed if it does not exist?

1. Is it important for citizens to become involved in decisions involving public transportation? Why or why not?

2. What types of actions can citizens take to improve public transportation services--for example, persuading friends and family to use them more often or more appropriately? participating in transportation planning? engaging in political action such as voting and petitioning politicians? public officials? seeking redress of grievances? initiating carpools?

3. How can citizens also promote more efficient use of the automobile?

4. About what public transportation issues can and should citizens become involved--for example, safety? availability of services? discriminatory services? funding problems? fares? environmental considerations?

5. What actions can citizens take to meet the grievances operators of public transportation have against citizens, such as vandalism and discourtesy?

Evaluation Method:

Students describe the components of the field of study, "public transportation education," and indicate why each component is important.

Variations and Supplementary Activities:

Class can break into small groups, with each group responsible for developing its own definition of public transportation and identifying its own list of topics that can be considered to fall within the field of public transportation education.

Students can interview public transportation officials in their community about what they think the components of the field are and how they define public transportation. Students compare the officials' definitions with their own and resolve any discrepancies. A public transportation official can also be invited to class to discuss these issues.

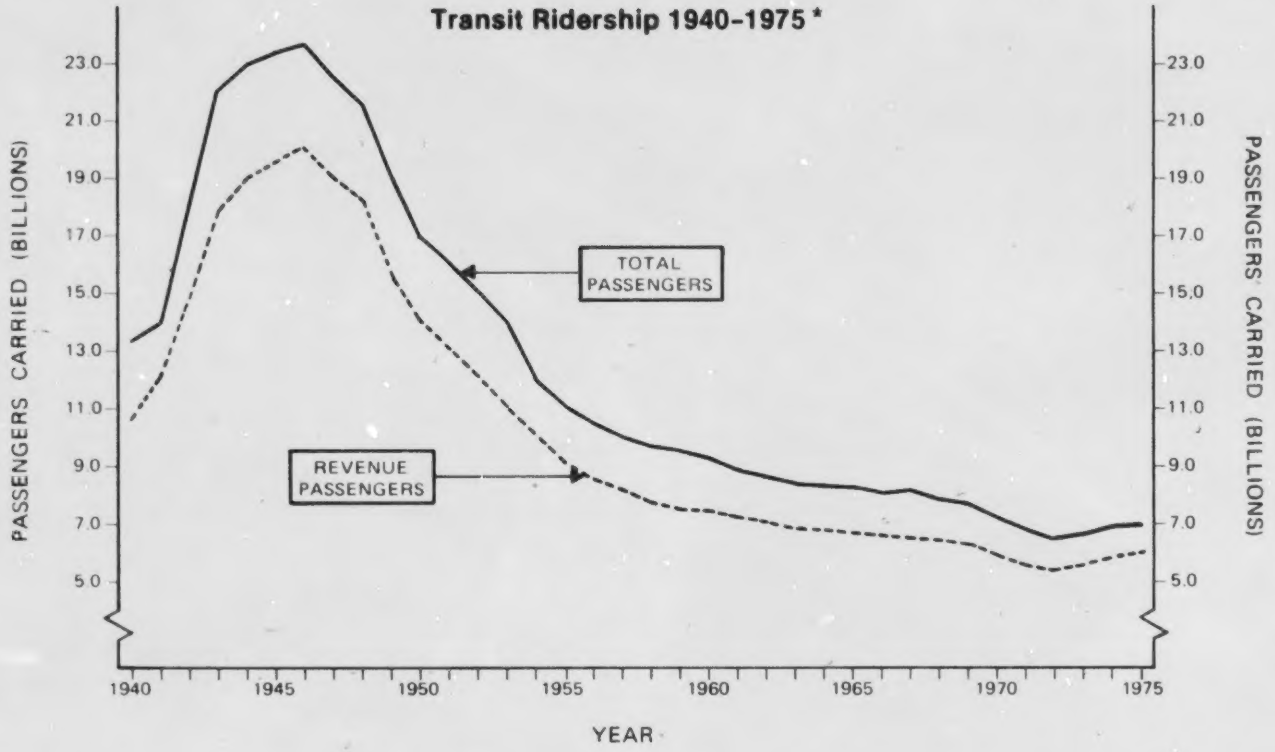

*Chart taken from *Transit Fact Book*, courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #9

Mini-unit Topic: Identifying and Using Public Transportation

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students assess their travel needs and evaluate whether and when they should use public transportation.

Goal:

To be aware of how we normally travel and learn to identify times when it is appropriate to use public transportation.

Concepts Treated:

- Many people are unaware of what transportation modes they regularly use and how often they use them.
- People tend to lack awareness of the full extent to which they depend on automobiles for their travel needs.
- People tend to ignore the possibilities for using public transportation and carpools for some of their travel needs.

ACTIVITY

For a period of several days, students keep a log of all the traveling they do by motorized and nonmotorized (e.g., bicycling, walking walking) modes of transportation. For example,

Tuesday

Rode bus to school
Took bus home
Rode bike to Billy's house
Billy's mother drove us to the pool and home again
Rode bike to my house
Took bus to library
Walked home

Wednesday

Took bus to school
Went on field trip to local dairy by bus
Took bus home from school
Mother drove me to trumpet lessons
Walked home
Walked to the drug store and home again

Thursday

Mother drove me to school this morning (missed bus)
Mother picked me up at school - had to go to the dentist
Picked Davy up at the train station and went home

At the end of the week, students tabulate their total number of trips and the number of trips by each transportation mode. Keep a running tally on the blackboard. Then discuss the following issues with the class in light of these results:

- How would your life be different if there were no way to travel--even short distances?
- If all automobiles suddenly disappeared, how would people get around?
- If your parents' or your car were stolen or in the repair shop for a long time, how would that affect your ability to get around?
- If you aren't using public transportation or carpools now, for which of your travel needs could you use them?

Evaluation Method:

Students cite instances in their personal lives where travel by public transportation would be fitting and explain why.

Variations and Supplementary Activities:

Students can perform the same activity in terms of ways in which they could make more efficient use of the automobile for the trips recorded in their logs--for example, by carpooling and consolidating trips.

If there is no public transportation in the local community, students can conduct the activity by discussing whether any of the trips they recorded in their logs *could* have been taken by public transportation if there *were* any buses, trains, etc. in their community and whether they would have actually used the public transportation modes instead of driving or walking.

ACTIVITY #10*

Mini-unit Topic: Identifying and Using Public Transportation

Approximate Class Time: 1½-2 periods

Capsule Activity Description: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.*

Goal:

To know the advantages and disadvantages of using different modes of transportation.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Most modes of transportation have both advantages and disadvantages.
- A major advantage in using public transportation is that such patronage helps attain a balance in the use of all transportation modes.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Duplicate copies of the check sheet provided on Spirit Master #1 and distribute two copies to each student. Each student fills in one, placing check marks in the boxes to indicate good features they feel different modes of public transportation offer *in general*, without special reference to their community. For example, taxis in general offer a fair amount of privacy; subways use energy relatively efficiently. Students then think *of their own community* and then place check marks in the boxes of the second copy of the chart to indicate good and bad features they feel different modes of public transportation offer *in their community*.

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*This activity also appears in Mini-unit 1.

In communities with only one mode of (or without) public transportation, students should consider (1) what *would* be the pros and cons of various modes that might be installed in their community and (2) why there is only one mode of (or no) public transportation.

The class then breaks into small groups. Each group compares its members' sheets and discusses discrepancies among them until it is able to develop (using two more blank sheets) a consensus on the positive and negative features of public transportation in general and in their community.

Each group presents its results to the class and the opinions of all the groups are compared. Disagreements among groups are discussed and explained. Follow-up discussion is held to consider which of the seven (or more, if students added to the list) general features of public transportation are most important and why--that is, which of these features would be most likely to motivate a citizen to use public transportation instead of a car or use one particular mode of public transportation instead of another. The features can be rank ordered from most influential to least important.

Be sure to point out that one of the major needs in most American communities today is to achieve a balance in the use of all transportation modes. To the extent that people increase their use of public transportation and rely less on the use of automobiles they will be contributing to the attainment of a balanced transportation system in their community.

You can also point out that, as a supplement to this approach to creating balance in transportation modes, the public can also make more efficient use of the automobile by using carpools, engaging in trip consolidation, and practicing energy-conserving driving techniques.

Conclude the activity by inviting an official of a local public transportation system to come to class (preferably with a bus) to react to and expand on the students' conclusions regarding the good and bad features of using public transportation.

Evaluation Method:

Students describe the advantages and disadvantages of traveling to a particular destination in their community by bus, trolley, taxi, ferry, or carpool, depending on the availability of these modes of transportation where they live.

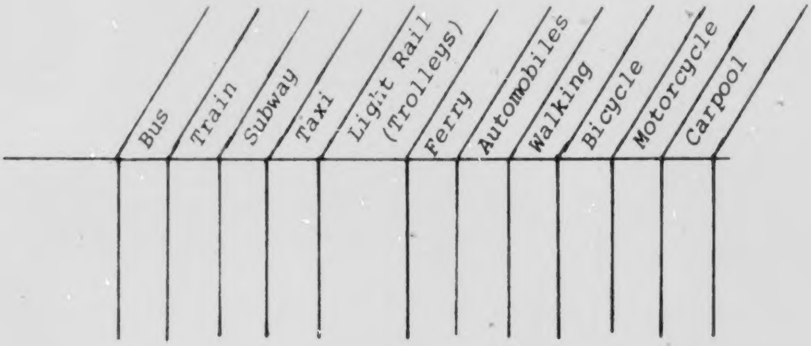
Variations and Supplementary Activities:

For some classes, it may be best to use this activity *after* students have researched some of the advantages and disadvantages of public transportation so that they have a fund of information to rely on in filling out and discussing the check sheets.

This activity can be simplified or made more complex in a number of ways. For example, students can fill in one chart as a class, considering only their own community's public transportation facilities. Students can also refine the sublistings under each of the seven features to include time of day travel occurs, type of person doing the traveling (e.g., handicapped? child?), weather conditions, or comparisons with walking or bicycling as alternative modes of travel. For example, taking a ferry may be relatively more expensive for the poor than for the middle class. Using a taxi rather than a bus may be less convenient for minority persons, who are sometimes refused rides, than for whites, who are routinely picked up. However, taxis may be more comfortable to use in cold, heat, rain or snow than buses, for which one may be required to wait outdoors and which may run less frequently after a certain hour. On the other hand, taxis are expensive.

Students can adapt the chart into a questionnaire and poll the community to learn its attitudes toward the advantages and disadvantages of using public transportation.

Students can insert private modes of transportation at the top of the chart and draw comparisons between them and different forms of public transportation. See example below:



Students in a community without public transportation (or with only one mode) can pick a community about which they have some information (e.g., nearest big city) that is different from their own community in terms of size and types of public transportation available and complete the chart for that community. Students compare and discuss results.

Students can discuss how carpooling and more efficient use of automobiles help the environment but may involve inconvenience.

ACTIVITY #11

Mini-unit Topic: Identifying and Using Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages.

Goal:

To be aware of carpooling as a potentially important transportation mode with distinct advantages and disadvantages.

Concepts Treated:

- Carpooling reduces the harmful effects of excessive automobile use on the environment and conserves energy resources.
- Carpooling has other advantages but also distinct disadvantages.
- Carpooling has features that make it both similar to and different from public transportation.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Prior to this activity, students might engage in Activity 1 in which they discuss what is meant by "public transportation." Class then discusses whether it feels carpooling can be considered a form of public transportation. Regardless of its conclusions in this respect, students move on to discuss the advantages and disadvantages of carpools. You can raise for consideration the following points:

Advantages. It reduces traffic congestion and air pollution; conserves energy resources; promotes sociability; reduces need for street maintenance; saves participants money (see cost-savings chart at end of this activity); may save participants frustrations associated with driving daily in traffic or long distances; and is particularly practical in areas in which public transportation is not readily available.

Disadvantages. In involves loss of privacy; loss of flexibility in terms of departure and arrival; and increased time commuting in order to pick up other passengers. It may involve the frustration of waiting for late passengers or embarrassment at leaving them behind; phone calls in cases of illness or other times when passenger or driver can't make the trip; and the discomfort of traveling with uncongenial passengers. Also, it may prevent running errands during lunch hour.

After discussing pros and cons of carpooling, class then discusses one or more of the following issues:

1. Should business provide special arrangements to facilitate the formation of carpools (e.g., maps indicating where employees live)?

2. Should businesses provide incentives for employees to form carpools or disincentives against employee use of automobiles to commute to to work?

3. Should the government assist in the formation of carpools (e.g., by providing computer services), institute special benefits for carpools (e.g., special lanes on crowded highways during rush hour, reduced tolls on bridges), or engage in a media campaign to promote the use of carpools?

4. Should employees actively encourage each other to join carpools?

Evaluation Method:

Students role-play company employees who have joined carpools trying to encourage co-workers to do the same.

Variations and Supplementary Activities:

Students can develop questionnaires and administer them to parents or other community members asking about their attitudes toward carpools and whether they are in one, would like to join one, or are opposed to them.

Students can research the results of carpool experiments in businesses by interviewing employers and employees who have set them up.

Students can research incentives local governments have used to promote the use of carpools, for example, the provision of a special lane and reduced toll on the San Francisco-Oakland Bay Bridge in California.

Students can compare carpools with taxis and discuss whether taxis should be allowed to carry several passengers who are going to different destinations.

Students can discuss whether free transportation provided by churches and community agencies for the elderly and handicapped or vans provided by companies as a shuttle service between plants should be considered "public transportation" and why.

CARPOOL SAVINGS

SEE HOW MUCH MONEY YOU CAN SAVE IN ONE YEAR BY CARPOOLING

FEDERAL HIGHWAY ADMINISTRATION

HOME TO WORK	ANNUAL ROUND TRIP COSTS AND SAVINGS	SUBCOMPACT (PINTO, DATSUN, VEGA, VW, COLT)	COMPACT (NOVA, DART, MAVERICK, PACER)	STANDARD (MATADOR, CUTLASS, LTD, CAPRICE)
10 MILES (20 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$128	$176	$234
	MAINTENANCE AND REPAIR	97	109	130
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	110	143	250
	TOTAL	$646	$749	$948
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$281	$332	$427
	3-PERSON CARPOOL	361	427	553
	4-PERSON CARPOOL	402	474	617
	5-PERSON CARPOOL	425	502	654
15 MILES (30 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$193	$264	$352
	MAINTENANCE AND REPAIR	145	164	195
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	166	215	374
	TOTAL	$815	$964	$1,255
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$366	$438	$581
	3-PERSON CARPOOL	473	569	758
	4-PERSON CARPOOL	528	635	847
	5-PERSON CARPOOL	559	674	899
20 MILES (40 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$257	$352	$468
	MAINTENANCE AND REPAIR	193	218	260
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	221	286	499
	TOTAL	$982	$1,177	$1,561
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$449	$545	$734
	3-PERSON CARPOOL	585	712	963
	4-PERSON CARPOOL	654	796	1,077
	5-PERSON CARPOOL	693	845	1,145

EXAMPLES OF SAVINGS

A PINTO DRIVER AND A LTD DRIVER, WHO ARE NEIGHBORS, DECIDE TO COMMUTE TOGETHER TO WORK. THE TRIP IS 10 MILES EACH WAY SO THE ANNUAL SAVINGS FOR THE PINTO DRIVER IS $281 FOR THE 20 MILE ROUND TRIP. FOR THE LTD DRIVER IT IS $427, OR A CARPOOL TOTAL OF $708 SAVINGS BETWEEN THE TWO OF THEM.

FIVE STANDARD CAR DRIVERS IN A SMALL TOWN FORM A CARPOOL TO COMMUTE THE 20 MILES TO THE CITY TO WORK (40 MILES ROUND TRIP) WHICH GIVES EACH OF THEM AN ANNUAL SAVINGS OF $1,145 OR A TOTAL FOR THEIR CARPOOL OF $5,725.

MINI-UNIT 3

LEARNING TO MAKE CHOICES AMONG DIFFERENT TRANSPORTATION MODES

This unit is designed to help students develop skills in selecting, from private and public transportation modes, the best way to travel in their communities and then making the most effective use possible of those modes they select. Particular attention is given in the unit to the reliance many people place on the automobile for most of their travel needs. Students are asked to consider whether such reliance is excessive and could be reduced by increased patronage of public transportation and use of carpools.

The unit also stresses that students should be concerned with helping society in general and their communities in particular to attain a balance in the use of transportation modes and that one way to achieve this balance is for the public to increase its use of public transportation and carpools.

Teachers may choose to schedule this third mini-unit after the previous one.* Having learned in the previous unit to identify public transportation vehicles, and having developed the ability to use them, students can naturally move on to a study of how to make choices among different transportation modes.

Specific concepts addressed in the unit include

- Selecting the best method of traveling requires identifying and weighing the advantages and disadvantages of different modes of transportation.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.
- There are emotional as well as practical reasons for deciding how to travel.
- The decision of which mode of transportation to use is one that must be made again and again in the light of varying travel needs and destinations.

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*As with the previous unit, this unit's activities can be used in communities in which there is no or only one mode of public transportation if students imagine they live in a community in which there is at least one mode of public transportation.

MINI-UNIT 3 LESSON PLAN

Learning to make choices among different transportation modes

Activity #	*Activities*	*Class Time*
12	DESCRIPTION: Students take a trip using both public and private transportation. GOAL: To be able to select the best way to travel to a given destination in the community.	1 period plus out-of-class time
13	DESCRIPTION: Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles. GOAL: To know what the comparative effects of public transportation and cars are on the environment.	1-3 periods plus out-of-class time
14[a]	DESCRIPTION: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation. GOAL: To be aware of the many reasons people drive cars and of which reasons are appropriate.	1 period
15 Spirit Master #2, Part One	DESCRIPTION: Students examine their own attitudes toward decreasing their use of automobiles and increasing their use of public transportation and carpools. GOAL: To be aware of why many people, including themselves, may be reluctant to use public transportation and carpools.	½-1½ periods

[a] This activity also appears in Mini-unit 1.

Total Class Time: 3½-6½ periods.

ACTIVITY #12

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: 1 period, plus out-of-class time

Capsule Activity Description: Students take a trip using both public and private transportation.

Goal:

To be able to select the best way to travel to a given destination in the community.

Concepts Treated:

- Using different methods to travel to the same destination is one helpful way of identifying the best transportation mode to use for similar trips.
- Selecting the best method of traveling requires identifying and weighing the advantages and disadvantages of different transportation modes.
- The harmful and beneficial effects on the environment of different transportation modes should be identified and considered in deciding how to travel.
- People should consider how their travel behavior may help to promote balance in the use of various transportation modes.
- The decision of what travel modes to use is one that must be made again and again in the light of varying travel and social needs.

ACTIVITY

Divide the class into two groups. (If this makes too large groups, you may be able to further divide the class if you can get help in supervising the field trip.) Decide on a destination that can be reached by using both public transportation and by private car. Students can decide what might be a good destination. (You may also want to try this experiment on a field trip which is already planned.)

Half of the class goes by public transportation, the other half by private car. On the way back, the two groups switch transportation modes. After arriving back at school, the students discuss the trips and compare the two modes. So that students will know what to look for, have them draw up a list before the trip of what to take note of, such as

> *Departure time, arrival time, and total time of trip.*
>
> *Cost.* Tickets and transfers for public transportation, and gasoline and oil for car. Older students should also take into account depreciation, insurance, license, and repairs. Younger students may have to be given a cost-per-mile figure for a car; 20¢ is probably a minimum. Add parking costs if there are any. Students should compile costs for one-person travel and carpooling. If the use of public transportation requires a drive to the station, then that cost must also be counted.
>
> *Comfort.* In terms of waiting time, closeness to destination, crowdedness, presence or absence of air conditioning.
>
> *Availability.* Was the public transportation always or readily available? Did they have to wait for a driver? Did they have to use more than one mode of transportation?
>
> *Dependability.* Were there any breakdowns? Was the public transportation on schedule? Was the private car on schedule?
>
> *Convenience in bad weather.* Which mode required less exposure to rain, snow, or heat?
>
> *Environmental considerations.* Which mode is less harmful to the environment? Which uses less energy per passenger mile? Which causes the most pollution per passenger mile? (For example, a car and a bus may cause the same amount of pollution each mile they travel, but the bus' pollution per mile must be divided by the number of passengers it usually transports--see charts at the end of this activity.)

Taking these points into consideration, the students discuss which was the better way of getting to the destination. They will have to discuss trade-offs among costs, convenience, speed, etc. and take into account important environmental and social concerns. The decision of whether or not to use public transportation is one that many citizens must make every day. It is never possible to decide once and for all only to use public transportation or only to use the private automobile. That decision will always depend on various considerations and must be made daily in light of those factors.

Evaluation Method:

Students develop a short flyer that answers common questions the public may have about public transportation and leave the flyer in the library for public use.

Variations and Supplementary Activities:

Several small groups use different modes of public transportation for a week or so and report their experiences to the class. Again, trade-offs will have to be discussed for train, subway, bus, taxi, etc. An observation sheet similar to the one described will have to be developed so that students will be in a position to make a useful report. To make their observations more useful, have them establish priorities among the various categories: i.e., list the most important consideration first, then the second most important, etc. (For example, one student might have this order: availability, cost, safety, convenience; another might put cost first.)

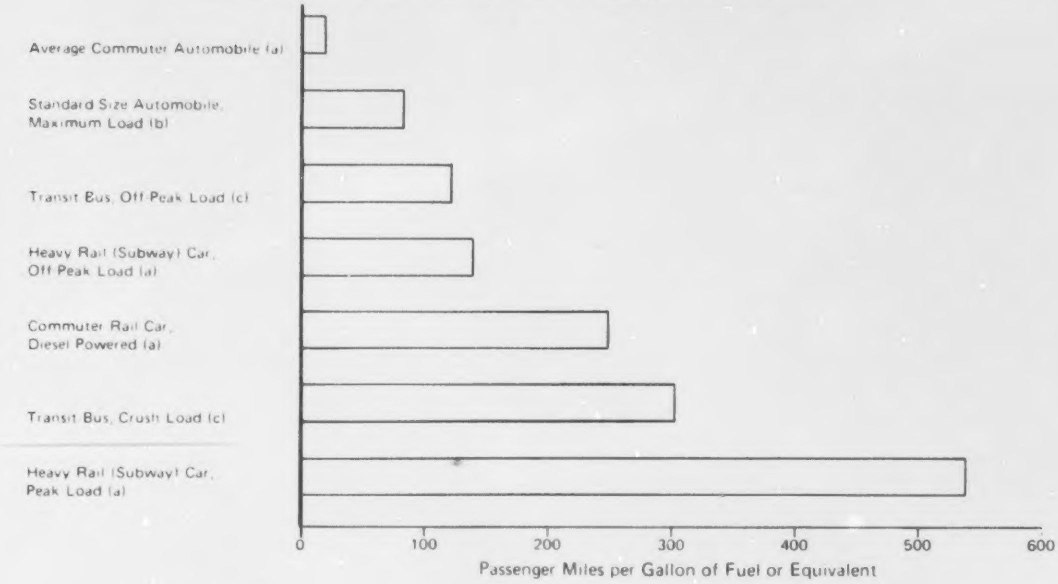
Another variation might be to ask each student to identify a trip he or she often takes (to the store, to the doctor, to visit a relative) and then have him or her take the trip using a different public transportation mode. Again, the important part of the activity is the preparation of the observation sheet beforehand, so that students can report on their new travel mode and compare it with the old one.

Energy Requirements of Passenger Transportation Modes*

	ASSUMED PASSENGER LOADING	VEHICLE MILES PER GALLON OF FUEL OR EQUIVALENT	PASSENGER MILES PER GALLON OF FUEL OR EQUIVALENT
Heavy Rail Transit (Subway) Car, Peak Load (a)	135	4.00	540
Intercity Passenger Train (b)	540-720	0.50	270-360
Transit Bus, Peak Load (c)	75	4.10	307
Intercity Bus (d)	47	6.00	282
Commuter Rail Car, Diesel Powered (a)	125	2.00	250
Heavy Rail Transit (Subway) Car, Off-Peak Load (a)	35	4.00	140
Transit Bus, Off-Peak Load (c)	30	4.10	123
Rail Turbine Train (b)	320	0.33	110
Standard Size Automobile Intercity, Maximum Load (e)	6	18.00	108
Standard Size Automobile Urban, Maximum Load (e)	6	14.40	86
Wide-Body Commercial Jet Aircraft, 1,000 Mile Flight (f)	256-385	0.14-0.22	54-60
Twin Jet Commercial Aircraft 500 Mile Flight (f)	68-106	0.44-0.54	37-47
Average Commuter Automobile (a)	1.4	13.5	19

Sources
(a) Commonwealth of Pennsylvania, Department of Transportation
(b) National Railroad Passenger Corporation (Amtrak)
(c) Cleveland Transit System
(d) U.S. Department of Transportation, Transportation Systems Center
(e) U.S. Department of Transportation, Federal Highway Administration
(f) National Aeronautics and Space Administration

Energy Comparison of Urban Transportation Modes



Sources (a) Commonwealth of Pennsylvania, Department of Transportation
(b) U.S. Department of Transportation, Federal Highway Administration
(c) Cleveland Transit System

*Chart taken from *Transit Fact Book*, courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #13

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: 1-3 periods, plus out-of-class time

Capsule Activity Description: Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles.

Goal:

To know what the comparative effects of public transportation and cars are on the environment.

Concepts Treated:

- All forms of transportation have environmental effects.
- The effects of transportation vehicles on the environment can be neutral or harmful.
- The harmful effects on the environment of different transportation modes should be identified and considered in deciding how to travel.
- People should consider how their travel behavior may help to promote balance in the use of various transportation modes.

ACTIVITY

One of the arguments for using public transportation and decreasing use, where appropriate, of automobile travel is that automobiles have more adverse effects on the environment than do buses, trains, ferries, and subways per number of persons transported by each vehicle. In order to confirm the validity of this argument, students in small groups, individually, or as a class research the effects of automobiles on the environment in terms of noise pollution; air pollution; traffic congestion; influence on residential and work patterns; creation of a need for facilities, such as highways and parking lots, that take up land and may displace homeowners, apartment dwellers, and businesses; and energy consumption.

Students select research methods most appropriate to the availability of resources in their community. Examples of research methods follow:

Students can *survey* their neighborhood to determine the extent to which facilities servicing automobiles take up land in the community and whether this land could profitably be put to other purposes. Students can then compare the extent to which public transportation facilities also consume valuable land space (or, if the community has no public transportation, imagine how much space would be taken up if the community did have public transportation). Students should also be made aware that one out of six jobs throughout the country stems from transportation.

Students can *research* the effects of highway and road construction on the displacement of persons, businesses, farms, and community facilities by interviewing people who have been displaced (if known to the students), officials of businesses or agencies responsible for helping displaced persons and businesses. Students can compare the effects of highway displacement to the effects of displacement due to construction of public transportation facilities.

Students can *investigate the effects* of automobiles and of the facilities servicing cars on the appearance of the environment (for example, litter, billboards, junkyards) and compare these visual effects with those resulting from public transportation.

Students can *place themselves* in areas in which there are public transportation vehicles and compare the noise levels they produce with those produced by automobiles on limited access highways and busy streets.

Students can *compare* the effects on workers of commuting by car with those of commuting by public transportation in terms of emotional benefits and costs.

Students can *also compare* the effects on workers of commuting by single-occupancy cars with those of commuting in carpools in terms of emotional benefits and costs and impact on the environment.

Students can *read* appropriate literature on the environmental effects of the automobile and various forms of public transportation, such as the materials suggested in the Bibliography of this Manual.

Students can *interview* government agency officials in departments of transportation, highways, public transportation, and environmental protection agencies on what effects automobiles and public transportation vehicles have on the environment.

Students can keep a detailed written *list* of their observations of transportation effects on the environment for a given period of time, such as one day, two days, or a week. Different students can pick different vehicles, including cars and buses. Students can compare the effects on the environment they observed caused by automobiles with those produced by public transportation vehicles.

Students can *research* the comparative beneficial effects automobiles have, as opposed to public transportation vehicles, on the quality of life, such as providing access to parks, historical sites, or other natural environmental areas; relieving traffic from more congested parts of town; and providing scenic views.

Students can *investigate the extent* to which automobiles consume scarce energy resources as compared with public transportation vehicles by interviewing appropriate government and transportation authority officials and making rough mathematical computations of their own. (See end of Activity 12 for charts on energy usage.) In addition, students can examine the following statistics and relate them to their own community: Approximately 60 percent of the liquid fuel consumed in the United States is used for transportation purposes; and, within the transportation sector, highway vehicles are the major consumer, accounting for nearly 40 percent of all petroleum used in the United States. Transportation's petroleum requirements *doubled* between 1954 and 1974; 92 percent of the more than 2.4 trillion "person miles" of travel annually in the United States are by automobile; and 70 percent of all travel in the United States is by automobile (27.6 percent is by commercial air transportation, 1.5 percent by bus, and 0.5 percent by passenger rail). (See the figure on the next page.)

After engaging in one of these research activities, students compare the relative positive and negative effects on the environment and on promoting balance in the use of all transportation modes of automobiles and public transportation vehicles *in terms of the number of people they transport*. The class should be aware that there are, of course, many other factors that must be considered in assessing the relative merits of public transportation as opposed to the automobile, including economic costs, convenience, traveling time, safety, and speed. These other considerations are treated in other activities.

Evaluation Method:

Students describe the comparative effects of public transportation and automobiles in their own community.

Variation and Supplementary Activity:

Students debate one or more topics that compare the relative effects on the environment of automobiles as opposed to public transportation vehicles, such as "Resolved, that an extension of the bus service between Grant and Lee Streets would be of greater benefit to the environment than widening Appomattox Street to accommodate more cars."

1974 Gasoline Consumption

Vehicles	*Barrels/Day*
Passenger cars	
Getting to work	1,760,000
Pleasure driving	1,360,000
Personal business	1,020,000
Business, government	800,000
Subtotal	4,940,000
Trucks	1,470,000
Farm vehicles	200,000
Other uses	200,000
Total	6,810,000

ACTIVITY #14*

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: 1 period

Capsule Activity Description: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.*

Goal:

To be aware of the many reasons people drive cars and of which reasons are appropriate.

Concepts Treated:

- Many people have emotional as well as practical reasons for driving cars.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and considered in deciding how to travel.
- Consumers need to evaluate the appropriateness of using automobiles to satisfy emotional needs in light of the harmful effects on the environment that excessive automobile use causes and the imbalance in the use of transportation modes that it creates.

ACTIVITY

Students write their response to the following instructions and scenario:

> It was the biggest event in my life. I had been looking forward to it for at least four years, and the last year was an agony of waiting for my dream to come true: a car! At last I'd be able to do all the things I'd been waiting for.

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*This activity also appears in Mini-unit 1.

Write down all the reasons *why you think this teenager was so eager to drive.*

During the following class period, students break into small groups and are given written instructions to read each other's papers and discuss one or more of the following issues:

1. What responses did you give for why the teenager was so happy to be able to drive?

2. What other reasons do people have for driving cars?

3. Which of these reasons involve the use of cars as an essential, enjoyable, and important means of transportation that *public transportation or carpooling could not provide nearly as well?*

4. Why do people prefer cars to public transportation?

5. Is it desirable and possible to change Americans' attitudes about cars, and if so, how?

6. What arguments are there for using public transportation and carpools in certain circumstances, rather than automobiles?

7. How could these arguments be presented to the motoring public effectively and who should be responsible for educating the public to the importance of reducing its reliance on automobiles or making more efficient use of the automobile (as in carpools), and increasing its use of public transportation, and helping to attain balance in the use of all transportation modes?

Groups report their conclusions to the class and respond to comments and questions from the class and you. Raise for discussion additional reasons some people have for traveling by car rather than by public transportation or carpools, such as privacy; convenience: door-to-door service; comfort: regulated heating, uncrowded, seats available; mobility and independence; power symbol; apparent cost-effectiveness: no money is paid during most trips; speed: often less time consuming than other travel modes; impressiveness: driver can show off a big, expensive, sporty, or otherwise ego-building car; flexibility: can stop and get out or take side trips at will; and lack of public transportation.

Evaluation Method:

Students describe the arguments for and against America's current use of automobiles in role-played debates between advocates of automobile travel and proponents of public transportation.

Variations and Supplementary Activities:

Students can poll friends and neighbors on reasons they wanted a driver's license when they became of age.

Students can discuss whether a reduction in the use of automobiles (or more efficient use of the automobile) would have adverse effects on the economy and on employment.

Students can research and discuss the role automobile manufacturers and the highway lobby (a congressional pressure group representing automobile manufacturers, bus companies, truckers, and other groups with interests in highway construction, maintenance, and improvement) may have played in encouraging America's alleged preoccupation with and preference for the automobile--for example, by analyzing automobile advertisements.

Students can analyze automobile advertisements to learn to what extent they play to the emotional and psychological aspects of driving a car. Have car advertisements changed as a result of increased gasoline prices and the energy shortage?

ACTIVITY #15

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: ½-1½ periods

Capsule Activity Description: Students examine their own attitudes toward decreasing their use of automobiles and increasing their use of public transportation and carpools.

Goal:

To be aware of why many people, including themselves, may be reluctant to use public transportation and carpools.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different modes of transportation.
- There are emotional as well as practical reasons for deciding how to travel.
- Citizens should weigh the convenience of the automobile against its lack of energy efficiency and its poor effects on the environment.

ACTIVITY

Students write responses to the scenario and instructions provided on Spirit Master #2, part one. Class breaks into small groups and is given written instructions to read each other's papers and discuss the following:

1. Is the public transportation in your community such that people can comply with the President's request? If not, can you take other means to achieve the President's goals (e.g., carpooling, better coordination of automobile trips)? Are you willing to do so? How many people are already doing what the President suggested? Can they find other ways to be more energy efficient?

2. Why did some of you feel that you would not comply? Were your reasons valid? Why or why not?

The groups report their results to the class and respond to comments and questions from the class and you. Raise for discussion any reasons for refusing to use public transportation which the groups may not have considered, such as the following:

Habit. Some people do the same thing they've been doing for years simply because breaking a habit requires extra effort at first. Often people who can get themselves to break a habit just once and try something different find it much easier the next time to break the habit. For example, some people who never considered using public transportation but were forced to during the energy shortage of 1974-1975 found that having used public transportation once, it was easy and even enjoyable to continue using it.

Inconvenience. Using public transportation usually requires walking to a bus or train stop and waiting for the vehicle to arrive, whereas people can go right to their cars without apparent delay. However, automobile drivers must sometimes walk from parking lots to their destination and, more importantly, they often get delayed in traffic.

Safety. Many people feel safer driving in cities or parts of cities than going by public transportation because they fear being assaulted.

Cynicism. Many people believe that there is little or nothing they can personally do to remedy the imbalance in our transportation picture; therefore, they do nothing. "What difference does it make in solving the country's energy, pollution, or traffic problem if I take fifty more trips by bus instead of by car?" they ask. Of course, if only a few people take such action, nothing will be accomplished. If enough people take action, however, it all adds up to a significant result.

Lack of Time. Some people feel it takes too long to travel by public transportation instead of by car. A close comparison of the two may reveal little or no difference between them. Driving an automobile often takes longer than we realize when we consider traffic, traffic lights, searching for a parking place, getting lost, walking from parking lot to destination and back, and so on.

Discomfort. Driving a car, one is always assured of a seat--and usually a comfortable one at that. Public transportation often involves standing or sitting on unupholstered seats and being crowded. However, driving a car can often involve discomfort, too; for example, fighting traffic jams, putting up with the noises of horns tooting, brakes squealing, and mufflers roaring, sweltering on hot days (if the car isn't air-conditioned), getting tense from near accidents, and so on. Moreover, public transportation can provide opportunities for people-watching, reading, daydreaming, and cat-napping. (One reporter claims that 70 percent of the 13 million people who travel by train every day in Japan sleep during the trip!)

Lack of Privacy. Automobile travel affords a respite from crowds and unwanted fellowship. Public transportation, when it is crowded, can feel like an invasion of privacy; even when it is not crowded, some people may not be in the mood to be stared at or "given the once over." The reading provided at the end of this activity discusses the need for privacy as it is related to teenagers in particular.

Failure to provide emotional gratification. Public transportation fails to satisfy many of the emotional needs people have that cars can help meet, including needs for status and power.

Conclude the activity by discussing which of the above reasons people may have for refusing to use public transportation may also explain why many people do not join *carpools.* Are there still other reasons some people do not participate in carpools not covered in the above list of objectives to public transportation?

Evaluation Method:

Students role-play "people-in-the-street" being interviewed by "newscasters" regarding their attitudes toward decreasing their use of automobiles and increasing their use of public transportation. After each role-play, the class identifies what attitudes were being exemplified in the interviewees' responses.

Variations and Supplementary Activities:

Students can discuss what the government's role, if any, should be in promoting reduced use of automobiles, more efficient use of automobiles (by organizing carpools), and greater use of public transportation.

Students can poll their community to learn whether public opinion regarding public transportation has changed as a result of the energy crisis during the winter of 1973-1974. Did people turn to public transportation at that time because of the energy crisis? Have they retained the habit of using public transportation? If they have not, would they go back to using public transportation if the energy situation worsens? What is their evaluation of the public transportation service in their own community?

Students can discuss the issues raised in the reading selection provided at the end of this activity. For example, do students agree with the pessimistic conclusions in the reading? Do they feel that while they may be poorly disposed to use public transportation in their teen years, they may become more hospitable toward it as they grow older?

Teenagers and Automobiles

The following are selections from a report* published by the U.S. Department of Transportation, Federal Highway Administration. The study sought to determine how teenagers (called "panelists" in the report) travel and whether they would be likely to use public transportation if they were provided with the proper incentives.

Panelists' preferences for (transportation) modes were examined by looking at mode usage both collectively and among panelists with differing mode access. Either way, our teenagers were not dependent on public transit; the basic mode choices involved walking and automobiles. Transit accounted for 8 percent of all trips, 11 percent of the trips by unlicensed young panelists, and 18 percent of the trips by unlicensed older panelists. Walking accounted for 40 percent of all trips and 63 percent of trips by younger unlicensed panelists; even licensed youth made more than one-fourth of their trips on foot. Panelists used automobile travel on 51 percent of their trips as drivers, passengers, or hitchhikers. Automobiles provided unlicensed young panelists with twice as many vehicle rides as transit. Overall trip levels remained about the same for older and younger unlicensed teenagers, but both transit and automobile trip shares increased with age. Since transit was equally available to young and old panelists, its increased use by older nondrivers suggests increased vehicle travel demand caused by maturational changes in behavior preferences. (The easing of parental travel restrictions, less fear of strangers, and the availability of more spending money also enabled older teenagers to increase their use of transit.) With licensing, driving substituted for both walk and transit tripmaking...

Panel conversations and other data provided other insights about mode choice patterns that differ from commonly held conceptions of teenager travel. Transit, motorcycles, hitchhiking, and bicycles were used by only a small fraction of our teenagers, whereas walking and automobiles were used daily by almost everyone. Transit usage was not high even among youth living within a three-minute walk of a transit stop (although the nonhome orientation of many teenager trips may invalidate access distance as a measure of teenager transit availability.) Diversion rates away from transit were not equal among all older youth; they seemed greater for adolescent "action-seekers" than for well behaved, adult-like teenagers. Perhaps the more surprising fact about our panelists' mode availability and choice was the high reliance placed on car rides provided by friends rather than parents. Young panelists made only 27 percent of their car passenger trips as passengers with family adults. Family chauffering increased slightly with age among unlicensed panelists, as needs for vehicular travel increased, but even among this group, friends provided more than twice as many car passenger rides as parents did. Overall, chauffered travel accounted for just 13 percent of panelists' automobile trips and 6.5 percent of their total travel.

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*_Travel Patterns and Problems of Suburban High School Males_ (Douglas B. Gurin, U.S. Department of Transportation, 1974).

Several remaining key pieces of evidence lend support to our panelists' nondependence on public transit for mobility. Trip generation rates, the percentages of weekly budgets spent on transportation, and the popularity of automobiles and walking were all very similar among panelists from the three study communities, in spite of the varying availability of transit service. Trip generation was reported to be highest in the evenings, on weekends, and during summers, when transit service was least available. Transit trip purposes were primarily for the most routine and familiar trip purposes of going to school and going home, whereas walking and car travel were used for all trip purposes. Panelists traveled with other people for 60 percent of their trips, in groups which averaged 2.4 people and often involved three or more friends; transit, unlike walking or cars, has many features such as individual fares and crowds that discourage peer group trips. Furthermore, fears of unwanted interactions with strangers inhibited panelists' use of transit for individual tripmaking; when panelists traveled alone, they used transit for seven percent of their trips, walking for 51 percent, and car driving for 38 percent.

...We conclude that improved teenager access to transportation may not increase their total trip levels or distances significantly. Likewise, it may not change most of their trip purposes or mode choices. The travel patterns of the mobile teenagers probably represent the upper bounds on the magnitudes or proportions of trips that will be generated by improved access to transportation supply. Older teenagers who have poor transportation access already make "essential" trips to school and to home. They may just have less interest in self-initiated travel than older teenagers who take steps to obtain good transportation.

Some form of personal transportation seemed important to maturing working class, male panelists in particular. They felt compelled to secure their own transportation, even at high cost, because their parents and communities have appeared reluctant or unwilling (legally and morally) to provide family or public transportation for their adolescent trip purposes such as dating. Working class panelists reported negative outlooks on future marriage and fulltime work and felt pressure to have travel adventures and the excitement of vehicle ownership and control while they were still single. Their ideal system would also provide what families, schools, public transportation, and other societal institutions could not or would not provide: feelings of freedom, adulthood, equality, masculinity, physical or emotional security, and, in some cases, status; a means of nonverbal self-expression; and an ability to help other people.

MINI-UNIT 4

LEARNING HOW TO PROMOTE THE USE OF PUBLIC TRANSPORTATION

This mini-unit involves students in identifying methods private citizens and government agencies can use to promote increased use of public transportation, carpooling, and more efficient use of the automobile. The unit also has students evaluate whether such promotional efforts are appropriate, and if so, who should engage in them.

The unit addresses the following concepts:

- It is often difficult to persuade other people to use public transportation.
- The Federal government is promoting increased use of public transportation in order to attain balance in the use of all transportation modes.
- Citizens need to decide whether local and state government should promote increased use of public transportation and why.

In communities in which there is no public transportation, students can conduct the activities in this mini-unit *as if* they lived in a town or city that *did* have several modes of public transportation available. It is important for students living in such communities to engage in this mini-unit because a general knowledge of public transportation is important to all citizens in a highly technological and mobile country such as ours. Moreover, students living in such communities may some day move to cities or towns where public transportation is available and need to consider whether and how to promote public transportation. Finally, Federal tax money is being spent on public transportation, and residents of communities in which there is no public transportation need to evaluate whether they feel this is a wise allocation of their particular tax dollars.

MINI-UNIT 4 LESSON PLAN

Learning how to promote the use of public transportation

Activity #	*Activities*	*Class Time*
16	DESCRIPTION: Students discuss whether, when, and how to encourage other people to use public transportation and carpools. GOAL: To be familiar with and able to evaluate arguments for and against encouraging other people to use public transportation.	½-2 periods
17[a]	DESCRIPTION: Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation GOAL: To be aware of methods by which people can be encouraged to use public transportation.	1 period
18[b]	DESCRIPTION: The class discusses actions being taken by the Federal government to improve and promote public transportation in America. GOAL: To know what actions the Federal government is currently taking to promote public transportation.	½-1 period
19	DESCRIPTION: Students discuss ways to encourage increased use of public transportation and carpooling in their community. GOAL: To be able to identify and evaluate methods for motivating the public to increase its use of public transportation.	1-2 periods

[a] This activity also appears in Mini-unit 1.

[b] This activity also appears in Mini-unit 6.

MINI-UNIT 4 LESSON PLAN (CONTD)

Learning how to promote the use of public transportation

Activity #	*Activities*	*Class Time*
20 Spirit Master #2, part two	DESCRIPTION: Students discuss whether the government should promote the use of public transportation and, if so, how. GOAL: To be able to evaluate whether and how the government should promote the use of public transportation.	½-1 period

Total Class
Time: 3½-7
periods.

ACTIVITY #16

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: ½-2 periods

Capsule Activity Description: Students discuss whether, when, and how to encourage other people to use public transportation and carpools.

Goal:

To be familiar with and able to evaluate arguments for and against encouraging other people to use public transportation.

Concepts Treated:

- Citizens need to determine for themselves whether, when, and how to encourage others to use public transportation.
- It is often difficult to persuade other people to use public transportation.
- Some methods for persuading others to use public transportation are more effective than others.

ACTIVITY

Students write their response to the following scenario:

Margo is the 14-year-old daughter of Mrs. Whitney. The family lives in the suburbs, and Margo's mother works eight miles away in the city. Mrs. Whitney drives into town and back every day, rather than take the bus, and has to spend $3.50 to park her car. If she took the bus, she would have to walk three blocks, wait five to ten minutes for the bus and pay 50¢ for the trip. Margo feels that's not so bad--she, herself, does it every weekend when she goes to the movies. Margo thinks her mother is contributing to air pollution, wasting gasoline and ruining her nerves in the traffic. Besides, it costs only 50¢ by bus and takes only 15 minutes longer than by car.

Does Margo have the right to try to encourage her mother to take the bus? Why or why not?

During the following class period, break the students into small groups and give them written instructions to read each other's papers and discuss and agree on the following?

1. *Should* people seek to encourage others to use public transportation and carpooling?
2. If so, *whom* should they seek to encourage (relatives? friends? neighbors? co-workers?) If not, why not?
3. If so, what *methods* would be most effective in motivating others to use public transportation and carpools? (e.g., setting an example? reasoning with people? refusing to travel by car with them?)
4. What *arguments* can be used to motivate others to use public transportation and carpools?
5. *What* might make it difficult to persuade other people to use public transportation and carpools?
6. Is it *possible* to motivate people to encourage others to use public transportation and carpools? How? or why not?

The groups report their conclusions to the class and respond to comments and questions from class and teacher. Class discussion follows on whether citizens who use public transportation have an obligation to encourage other citizens to engage in what they feel are socially productive behaviors, such as reducing their use of cars, using cars more efficiently, and increasing their use of public transportation. Class can also consider when people can reasonably be expected to use public transportation and carpools. For example, it is reasonable or appropriate to encourage people to use public transportation or carpools when little or no additional expense is involved? little additional travel time is required? some discomfort or loss of privacy is involved? local automobile traffic jams are severe? it is relatively easy and no more expensive to use public transportation or to set up a carpool?

Evaluation Method:

Students use arguments for and against increased use of public transportation in role-played dialogues between proponents and opponents of increased use of public transportation. (See following activity.)

Variations and Supplementary Activities:

Students can develop the beginnings, middles, or endings to stories in which one person attempts to persuade another to use public transportation or carpooling and have other students complete them.

Students can develop their own scenarios in which one person objects to another's resusal to use public transportation or carpooling. Small groups can then discuss whether the objecting person has the right to encourage the public transportation (or carpool) nonuser to patronize public transportation more often (or join a carpool).

Each student can create a story ending of his or her own and exchange it with one other student who writes the beginning. Authors meet to compare their beginnings.

ACTIVITY #17*

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: 1 period

Capsule Activity Description: Students role play and then discuss methods by which to persuade other people to use or increase their use of public transportation.*

Goal:

To be aware of methods by which people can be encouraged to use public transportation.

Concepts Treated:

- It is often difficult to persuade other people to use public transportation and carpools.
- Some methods for persuading other people to use transportation and carpools are more effective than others.

ACTIVITY

Students role-play persons encouraging others to use public transportation and carpools (see sample role profiles at end of activity). After each role play, participants read their role profiles to the class and discuss the feelings they had while role-playing--in particular, "neighbors," "friends," and "relatives" discuss their emotional reactions to being asked to increase their use of public transportation. They also discuss which approaches used by the other role players were most effective in motivating them to switch to public transportation and why. Nonparticipants discuss what they would have said had they been involved.

After completing the role-plays, the class should be encouraged to write its own profiles and act them out.

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*This activity also appears in Mini-unit 1.

Evaluation Method:

Students identify which methods used in their role-plays were most effective in the simulation and would be most effective in real life in encouraging other people to increase their use of public transportation.

Variations and Supplementary Activities:

Students can debate such topics as, "Resolved, that people should be encouraged to make more efficient use of the automobile."

Additional role profiles can be developed in which the "public transportation supporter" advocates the formation and use of carpools.

Students can discuss whether people should be encouraged to make more efficient use of automobiles.

Sample Role Profiles

Bus

Public transportation supporter

You are the 14-year-old daughter of a mother who lives in the suburbs and works eight miles away in the city. You're upset with your mother because she drives all the way to town and back every day, rather than take the bus, and pays $3.50 to park her car. If she rode the bus, she would have to walk 3 blocks, wait five to ten minutes, and pay 50¢ (one way) for the ride, but that's not so bad--you do it every weekend when you go into town to the movies. You think your mother is contributing to air pollution, wasting gasoline, and ruining her nerves in the traffic. You've finally worked up the courage to confront her about it. You have just sat down to dinner. What do you say?

Public transportation nonuser

You live in the suburbs with your husband and two children, a 14-year-old daugher and a 17-year-old son. You drive to work in the city every day, even though it's an eight mile drive, because you dislike sitting in buses--when you can find a seat. Besides, you would have to walk three blocks to get to the bus and change buses on the way. You'd also have to stand in good and bad weather to wait for each bus; they run only once every 15 minutes during rush hour. You would rather pay the $3.50 to park your car every day than take the bus. Your daughter has made critical remarks to you once in a while about how you're wasting gasoline and how you come home complaining about the traffic. Now that you've just sat down to dinner, she looks as though she's going to bring up the issue again. If she does, what will you say?

Carpool

Carpool proponent

You have joined a carpool at work in an effort to save gasoline and money. Many of the other people in the factory have done the same thing. It's even turned out to be fun! You get to chat with your co-workers on the way in and back, so the drive is more interesting than it used to be. But the guy who works at the bench next to you is still coming to work in his car, all the way from Hillville, 22 miles away. This really concerns you, because here you are doing your share to conserve gasoline and he's not. There are at least two other workers who could form a carpool with him, so you've decided not to keep your feelings to yourself. It's the morning coffee break and you have just approached him to suggest he join a carpool. What do you say?

Carpool opponent

You live in Hillville, a small town, and work about 20 miles away in a factory. You drive to work every day, even though many of your fellow workers use carpools. You drive your own car because you can't stand to wait for someone to come pick you up, to wait for people to get together before you can leave work, and to drive out of your way to pick up other people. Each trip would take about 15 minutes longer for you in a carpool. You'd also have to put up with the poor driving habits of some of your fellow workers. Anyway, as long as you pay for your gasoline, why should anyone care? But here comes that guy who works at the bench next to you who's always talking about his carpool. You wonder if he's going to say something about your not being in a carpool. He'd better not!

Train

Public transportation supporter

You, Connie DiVellis, ride to work every day on the local commuter train. You find it's relaxing, inexpensive ($1.25 one way), and doesn't take too long. You used to drive the 40 miles to work every day, until you had to take the train because your car broke down one morning. When you realized it was so easy and enjoyable, you decided to keep on taking the train even after your car was fixed. It does take you an hour and a quarter to get to work by train, whereas it took only 50 minutes by car, but you are able to take advantage of the train ride to read the newspaper and relax. Your good friend at work, Otto Lopez, takes his car to work every day from about the same distance from another suburb. Sometimes when he gets to work he complains about the traffic, or the weather, or the problems he had starting his car. You think it would be a good idea both for him and for solving the pollution, energy, and traffic problems if he would come to work by train. It's now your lunch break and you think it's a good time to encourage him to stop taking his car to work and use the commuter train instead. You have just taken a bite out of the cream cheese and olive sandwich your husband packed for you. After you swallow the first bite, you're ready to begin. What do you say?

Public transportation nonuser

You, Otto Lopez, commute to work every day by automobile. It takes you about 50 minutes, because you live 20 miles from your job. Most of the time you like being able to drive, even if it does cost you $2.75 to park the car in a near-by parking lot. Sometimes driving is a hassle, however, for example in bad weather and when you nearly get into an accident. But you feel you have no other way to get to work. The commuter train is too expensive ($1.15 one way) and it would be a nuisance to have to wait for it every day. With your car, you can just hop in and get going! You're having lunch right now with your best friend at work, Connie DiVellis. You know she takes the train to work every day, and sometimes you wonder if you shouldn't, too. But, you think, as you bite into a tunafish salad sandwich, it's so pleasant in your car to turn on the radio and take off down the freeway. Connie seems about to tell you something, and you wonder if it's about her travels by train to work.

ACTIVITY #18*

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: The class discusses actions being taken by the Federal government to improve and promote public transportation in America.*

Goal:

To know what actions the Federal government is currently taking to promote public transportation.

Concepts Treated:

- The Federal government is promoting increased use of public transportation in order to attain balance in the use of all transportation modes.
- There are ways in which citizens can support the government's activity on behalf of public transportation.
- Citizens need to evaluate whether the government should be taking additional or different actions to promote increased use of public transportation.

ACTIVITY

In recent years the Federal government has assumed an increasingly important role in the development and maintenance of our nation's public transportation systems. In this activity, examine with your students the development of Federal assistance for public transportation and existing Federal programs and objectives.

Federal assistance for mass transportation began in 1961 with an emergency loan program and a small test and demonstration program. In 1964 the Urban Mass Transportation Act established a program of Federal matching grants for preservation, improvement and expansion of public transportation systems. Amendments to this act have provided broader program goals, higher funding levels, longer periods of assured Federal assistance and greater flexibility in meeting local needs. Funding increased from $50.7 million in 1965 to $133 million in 1970 to over $1.4 billion in 1976 for the purchase and construction of mass transportation facilities.

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*This activity also appears in Mini-unit 6.

The Federal Aid Highway Act of 1973 granted flexibility in the use of highway funds for public transportation purposes by opening urban system funds (previously targeted solely for highways) to transit, both rail and bus; and by opening all highway funds to exclusive lanes for buses, traffic control devices, bus shelters, parking facilities, etc. In addition interstate highway funds also were made available for non-highway public transportation purposes under certain conditions.

Federal Components

The Urban Mass Transportation Administration (UMTA) of the U.S. Department of Transportation bears the principal Federal responsibility for providing assistance to public transportation. In addition UMTA cooperates extensively with the Federal Highway Administration (also of the Department of Transportation) in providing a coordinated Federal approach to public transportation programs. Both administrations also work cooperatively with the U.S. Department of Housing and Urban Development and the Department of Health, Education and Welfare.

Immediate Goals

The Federal government assists and promotes public transportation systems through programs of financial aid to local public bodies (such as municipal governments or a local transit authority) and through research, development and demonstration grants. Specific goals include the following.

Mobility of Nondrivers. This objective is directed to identifying, studying and ultimately serving the transportation needs of the transportation disadvantaged--the young, aged, poor, handicapped, unemployed, and secondary workers. These groups include those who generally do not have reasonable access to alternative forms of transportation and are often deprived of mobility where public transportation is inadequate or nonexistent.

Relief of Traffic Congestion. This objective seeks improvement in overall traffic movement and travel time in urban regions especially during peak hours of travel demands.

Improving the Quality of Urban Environment. This objective requires achievement of land use patterns and environmental conditions that effectively contribute to the physical, economic and social well being of urban communities. Public transportation improvements - designed to help reduce the noise, odor, vibration, and other adverse impacts on the urban environment--are to be encouraged as a contribution to the improvement of the environment.

Examples of Federal Assistance

Many grants exist. For example, capital improvement and planning grants are awarded to local public bodies and provide 80 percent of the cost for new system equipment and modernization of transit facilities. Local bodies provide the remaining 20 percent of the costs; operating assistance grants are awarded to local public bodies and provide up to 50 percent of the cost of operating a transit system. Research, development and demonstration grants are provided to private and public organizations for studies, tests, and demonstrations of new ideas, methods, systems, and equipment for improved transportation planning and operations. Technical studies grants are awarded to local public bodies and provide up to 100 percent (UMTA administrative policy dictates 80 percent) of the cost for engineering plans and design of urban mass transportation systems, and for other planning studies. Managerial training grants are awarded to personnel employed in managerial, technical, and professional positions in the urban mass transportation field for advanced training. University research and transportation grants are awarded to nonprofit educational institutions and combine comprehensive research and research training in urban transportation problems. Finally, rural highway public transportation program grants are available to public bodies to test possible methods of improving transportation services for rural residents.

The Grant Process

Each program of the Federal government has specific procedures and requirements for funding. Given below is an example of the grant process for UMTA capital grants.

Public bodies must submit a preliminary application for purpose of ascertaining the probable eligibility of the applicant and project and the availability of Federal funds. If a positive decision is reached, then detailed engineering, planning, financial, and legal data must be set forth in a final application. Any application for capital grants must include a transcript or certification that a public hearing was held on the proposed project prior to submittal of the final application.

The preliminary application must include such items as a list of capital facilities for which the grant is requested; description of current system; benefits to be derived; estimates of the total cost; portion to be financed from local revenues and the source of such funds; arrangements that exist or will be made to insure continuing public control over the operation or use of facilities. The application must indicate whether the project will adversely affect employees of the transit system or result in relocation of families or business and must include draft environmental analysis.

Priority for UMTA capital grants is given to funding proposals that reinvigorate public transportation in order to provide service that will attract new riders regardless of their social or economic group or the purpose of their journey; provide better general service and develop special services to provide for substantial groups of people who are totally dependent on public transportation; and promote transit as a positive force in influencing and supporting desired development patterns in urban areas and improving environmental conditions.[*]

Future Federal Directions

Future programs will provide general fund financial assistance to help urban areas, and improve the quality and quantity of public transit. They will encourage local urban planners to bear more of the burden of deciding which of the many competing programs they wish to promote, given the limits of financial resources, and which programs they will defer. These are decisions that can best be made at the local level with Federal help in providing the data, guidelines and criteria needed to make prudent decisions. Attempts will be made to develop and encourage local areas to implement various incentive systems to force more efficient vehicular usage of our existing streets and highways, to continue to seek better mass transit technology, such as improved bus design, and to assist in efforts to form carpools.

After this general overview, give specific examples of programs the government has funded to achieve both its general objectives of providing safe, convenient, and fast public transportation services and also its specific goals described above. Examples of Federal government activity are provided at the end of the activity.

After the lecture, discuss with students the following issues:

1. How can citizens help the government to take effective actions to promote public transportation--for example, by attending hearings, by writing their opinions to the government, and by getting involved in regional transportation planning efforts?
2. Does it seem that the government's actions are effective? How can you tell? Are they appropriate? Why?
3. Are there other actions the government should be taking but isn't? If so, what are these actions? Why might the government not take these actions? What constraints may make it difficult for the government to take further action? Are there or have there been in the past pressures on the government not to allocate funds for public transportation?

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[*] *External Operating Manual* of the Urban Mass Transportation Administration, 1972. See the reading that begins on the next page.

Evaluation Method:

Students act as "government public information offices" and describe the government's efforts to promote public transporation to "the press" (the rest of the class).

Variations and Supplementary Activities:

Students can role-play a government information officer being interviewed on the government's actions to promote public transportation.

Students can research whether their transit authority has received assistance from the Federal, state, or local governments.

Federal Government Support of Mass Transit In Recent Years*

Community Improvements

In recent years, funds have been appropriated to communities for improvements in and purchases of public transportation facilities and vehicles. For example, the County of Hawaii received $474,852 to assist in the purchase of ten new passenger buses, bus signs, and related equipment. A grant of $107 million went for transit improvements in the Chicago, Illinois metropolitan area, including $75 million to the Chicago Transit Authority for extensive renovation, installation of service and maintenance equipment, and the purchase of 600 new buses; $12 million to the West Suburban Mass Transit District for the purchase of 20 new double-deck rail commuter cars, four locomotives, spare parts, and related items; $11 million to the Illinois Department of Transportation to assist in the purchase of land and construction of commuter rail passenger automobile parking facilities in 19 suburban communities. The grant also includes relocation payments for persons and businesses that are displaced by the construction. A grant of $800 million to the Metropolitan Atlanta Rapid Transit Authority (MARTA) to assist in the construction of its rapid transit represented the most significant Federal transit commitment ever made to any urban area in the nation. Other grants included $2,870,068 to the Delaware Authority for Regional Transit (DART), Wilmington, Delaware for the purchase of 48 new passenger buses, nine service and maintenance vehicles, 113 two-way radios, 48 fareboxes, 43 bus stop shelters, 2000 bus stop signs, and environmental improvement equipment and grants worth $20,800,000 to 47 states for direct transit assistance to elderly and handicapped persons, with which a total of 2283 vehicles are being purchased to aid the mobility of elderly and handicapped persons.

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*Contact the Urban Mass Transportation Administration, U.S. Department of Transportation, Washington, D.C. 20590, for list of most recent grants awarded for public transportation.

Demonstration Projects

Funds also go for demonstration projects in various communities which seek to indicate the success of different public transportation innovations, such as projects designed to test accessibility of public transportation for the handicapped and the elderly or new marketing and management techniques. A grant of $495,500, for example, went to Lower Naugatuck Valley of Connecticut for a system including limited fixed route service, flexible route demand-responsive service, contract bus service for social service agencies, and an automated collection system using credit cards and monthly billings. Grants of $415,984 to New York Metropolitan Transit Authority and $334,375 to Southern California Rapid Transit District allowed an examination of the feasibility of double-deck buses in regular transit routes and a study of public acceptance of the buses.

Industry and Research

Funds for industry and research institutions aid research and development of new or improved public transportation vehicles and facilities. For example, a contract of $8 million was awarded for the construction of an experimental prototype of a two-car advanced concept train (ACT-1) to be powered by a revolutionary energy-storage flywheel propulsion system to utilize electric power more efficiently. The operational data collection system is being developed, the objective of which is an integrated set of equipment that will automatically measure and record bus passenger activity, revenues collected and miles driven and relate this activity to time points on a line or route; thereby improving on present techniques of collecting and handling the operation information, essential for management, concerning a day's activity on a bus. By July, 1975, two "off-the-shelf" and three development automatic passenger counters, a registering farebox, an electronic odometer, and an on-board cassette recorder will have been tested, the counters in revenue service. Also being developed is the intermodal automatic far collection system. The objective is to develop a fare collection device for buses that can accept magnetic cards utilized by rapid rail transit systems, which will improve passenger convenience and the collection of data concerning total system revenues and passenger activity. If the tests are successful, specification will be written and action taken to procure two engineering prototypes of the integrated system production and demonstration in 1977. Yet another experiment is the transit security system demonstration. Its object is to install, demonstrate, and evaluate the effectiveness of security devices and techniques at selected rail transit stations on the Chicago Transit Authority System. Such devices include closed circuit TV monitoring, public address system, emergency telephones and alarms, and ticket agent alarms and intercoms.

Other Research

Funds go also to communities and educational institutions for research and for training managerial, technical, and professional personnel in the urban mass transportation field. For example, a grant of $150,000 was awarded to the Massachusetts Institute of Technology to provide research on control procedures for Dial-A-Ride, a bus system in which people phone the bus company requesting that the bus stop at their home.

Promotion

Promotion of the use of public transportation through a comprehensive marketing and education plan is also encouraged. The transit marketing program demonstration seeks to support the communication plans and service development as an integral part of the transit marketing project begun in FY 1974. The transit marketing project is designed to develop a basic transit marketing methodology and demonstrate its validity. The market research phase of the project was completed in July 1975. Transit service planning, service modifications, communication and user information in each of the test cities, Baltimore and Nashville, will be funded by this program. Results of the marketing project are intended for nationwide dissemination.

The transit user information project seeks to demonstrate the application of a comprehensive series of activities for conveying information about transit services to the public. It is specifically intended to demonstrate the effectiveness of dissemination techniques and tools currently being developed. Market research indicated a significant need to facilitate access to transit information for current and potential transit users. This need reflects the increasing complexity of transit schedules and routes, the use of a variety of fare structures and the general unfamiliarity of nonusers and new riders with transit systems. In this context, effective information dissemination is critical to wider public utilization of mass transportation.

The transit industry marketing handbook project is creating a marketing manual for transit managers. The manual will include substantial new transit marketing information and techniques resulting from considerable advances in the state of transit marketing and, equally significant, changes in the marketplace. The manual is being developed in response to the industry's need for a basic source of information for transit marketing, a basic element of improving system productivity and efficiency. This guide brings together, in a single convenient source, all the major information relating to transit marketing. Timely revisions will assure continued relevance of this manual to the transit manager.

The MBTA prepaid pass evaluation is a study enabling the Massachusetts Bay Transit Authority (MBTA) to evaluate the concept of a prepaid transit pass program designed to promote the increased use of transit by allowing employees to buy annual travel passes through convenient payroll deduction. Employers participating in the program include the John Hancock Mutual Life Insurance Company, the City of Boston, the Commonwealth of Massachusetts and the U.S. Department of Transportation's Transportation Systems Center.

Finally, there is transit marketing training and education. This has several levels: (1) A two-day seminar for general managers, transit board chairmen, and other appropriate high-level decision makers for transit systems in SMSAs of over 200,000 population, held June 9-10, 1975, gave a comprehensive, working knowledge of marketing. (2) A two-and-a-half-day workshop for transit marketing personnel, held June 18-19-20, 1975, afforded an opportunity to improve understanding, knowledge, and ability to use marketing techniques and tools. (3) A university course on transit marketing, both a basic course for teaching transit marketing at colleges, along with appropriate support materials, will be developed to be distributed to appropriate educational institutions for inclusion in existing or contemplated transportation courses, and UMTA will also assist a major university in establishing an annual two-week marketing training seminar for novice transit marketing personnel.

ACTIVITY #19

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students discuss ways to encourage increased use of public transportation and carpooling in their community.

Goal:

To be able to identify and evaluate methods for motivating the public to increase its use of public transportation.

Concepts Treated:

- Citizens need to decide whether local and state governments should promote increased use of public transportation and why.
- There are many potentially effective methods that local and state governments could use to motivate the public to increase its use of public transportation and achieve a balanced transportation system.
- Careful consideration needs to be given to which such government measures would be most effective in increasing the public's use of public transportation in a given community.

ACTIVITY

Before discussing ways to encourage people to increase their use of public transportation, students can engage in the following preliminary activity:

> Students can stand at one or more selected streetcorners for one hour during rush hour and count the number of cars that go by and number of persons in each car. Brief follow-up discussion can be held on the advantages and disadvantages of this mode of commuting.

Then break the class into small groups. Each group picks a different public transportation mode, including carpooling as one mode,* and analyzes ways in which the public can be motivated to increase their use of it through changes to improve the public transportation service; a public education or promotional campaign; and deterrents to excessive use of the automobile. For example, the group discussing increased use of buses might conclude that reduced fares and increased service are changes which would lead to increased use; that a publicity campaign fostered by the mayor (governor, town council, etc.) would increase use; and that restricting downtown parking between the hours of 7:00 a.m. and 9:00 a.m. would discourage commuters from using automobiles to commute to work and encourage use of buses. After fully discussing their recommendation, groups present them to the class and compare conclusions. Follow-up discussion can be held on

- Why public transportation or carpooling should (or should not) be encouraged

- Additional methods by which public transportation use and carpooling can be promoted in the community

- Whether the government should actively promote increased use of public transportation by improving public transportation service, advertising the benefits of public transportation and carpooling or legislating disincentives to the excessive use of automobiles

- What effects increased use of different modes of public transportation might have on the economy in terms of decreased need for automobiles and increased need for public transportation vehicles and facilities

- What short- and long-run effects an increase in the use of public transportation might have on the latter's ability to accommodate increased patronage and whether increased patronage would require immediate appropriations to finance expansion of services

- Whether it is possible to improve only one or two aspects of a public transportation mode and expect ridership to increase or whether the entire system must be improved. For example, which of the following improvements must be instituted in order to produce a significant increase in bus ridership: (1) safety against vandalism and muggings; (2) cleanliness; (3) speed; (4) frequency of service; (5) comfort--air conditioned, etc.; (6) fares; (7) first-rate management; (8) regulated automobile traffic flow (to enable buses to travel faster); and (9) route expansion

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*If the community has only one mode of public transportation, all groups discuss that one mode. In communities where no public transportation is available, students might discuss the steps necessary to promote a public transportation system if one were instituted.

Evaluation Method:

Students discuss one of the debate topics provided in the Variations section below.

Variations and Supplementary Activities

Students can interview officials from different public transportation modes on what actions they have taken or would like to take to promote increased use of their mode.

Students can interview officials of various state and local government agencies to learn what steps, if any, have been taken to discourage the public from excessive use of automobiles. If no such steps have been taken, students can ask why not. Agencies whose officials can be interviewed include environmental protection agencies, transportation agencies, and highway construction agencies.

Students can discuss ways to reduce vandalism of mass transit facilities and vehicles and how this might increase use of public transportation.

ACTIVITY #20

Mini-unit Topic: Promoting Public Transportation **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students discuss whether the government should promote the use of public transportation and, if so, how.

Goal:

To be able to evaluate whether and how the government should promote the use of public transportation.

Concepts Treated:

- There are strong arguments for and against the government's actively promoting the use of public transportation.
- There are many different ways in which the government can promote public transportation and citizens need to evaluate which, if any, of these methods the government should implement.
- A major objective of the government in promoting public transportation is to attain a balance among the various modes of travel.

ACTIVITY

Students discuss ways in which the government can promote public transportation and a balance among the various modes of travel. Class begins activity by writing response to the following scenario (provided on Spirit Master #2, part two):

> You have always believed that one of our society's major problems is that people use their cars too much and do not use buses, light rail, ferries, trains, subways, and taxis enough. Just yesterday the mayor appointed you commissioner of transportation for your community. He has told you he fully agrees with your feelings about cars and public transportation. "You develop your plan to promote use of public transportation and I'll support you 100 percent," he told you when you accepted the job.

> He needs a plan from you in a half hour, however, because he is going to a meeting where he wants to present his transportation plans for the next four years. This is the chance you've been waiting for! What steps will you recommend he take to discourage people from using their cars so much and motivate them to use pub- transportation more?

Class then breaks into small groups and identifies all the methods the students listed by which the commissioner of transportation could discourage excessive use of cars, motivate increased use of public transportation, and thereby promote balance in the use of all transportation modes in their community. Each group then tries to reach a consensus on which of these steps the government (local, state, or Federal) *should* take and why and which steps the government should *not* take.

Groups present their conclusions to the class and follow-up discussion is held, on one or more of the following topics.

Should the government accept the likelihood that public transportation (or certain types of public transportation) will always run at a *deficit* and should simply be *supported* from the general tax revenues as it is in every European country? Or, should public transportation be required to be self-supporting and, if it cannot sustain itself economically, be discontinued? Students can compare their own views with those of transportation consumers across the country as reported in the following paragraphs taken from *The Voice of the Transportation Consumer, Executive Summary* (U.S. Department of Transportation: Washington, D.C., 1975).

> A recurring theme throughout the hearings was the strongly held belief that the Federal government should provide operating subsidies for mass transportation as well as funds for capital expenditure. The contrast between 90 percent funding of highways and lack of operating subsidies has, some consumers believe, resulted in local decision that favor highways over mass transit. Many believe that the amount of such funding for operating subsidies and capital expenditures should be on a 90 percent to 10 percent Federal-state basis, similar to the 90-10 percent funding for highway construction. Federal help is needed, some believe, because there is no way to run a profitable mass transit facility. There are also several who believe that operating subsidies and capital expenditures should be financed 100 percent fy the Federal government. They claim that the government has subsidized other forms of transportation, including transportation operated by private industry, most notably airlines. The trucking industry has also been subsidized through the financing of highway construction. Some consumers believe that Federal funding should be made available to help private as well as public

bus companies, although they are fully cognizant that each year there are fewer privately owned bus companies in the U.S. They still cling to the belief that local option should prevail as to how Federal funds are used once they are received. But they also believe that the allocation of Federal funds to public transit systems should be based upon certain criteria, such as the number of riders. This would stimulate local transit authorities to strive for high ridership, and to achieve high ridership, authorities would have to offer good service to consumers.

On the subject of transit fares, there was considerable support for very low or reduced fares to stimulate ridership and some support for free fares, especially for the poor, elderly, and handicapped. Some supporters of free fares believe that the transportation user, regardless of income, should be provided free transit service paid for by taxes just as he is provided free police service, fire service, libraries, and garbage collection. In advocating a totally free transportation system, consumers cited the Seattle system which they said was free and was doing well. Also, in the words of one witness at the Oakland, California hearing, "Public transit should be free. You pay your taxes and you deserve the service."

In response to Question 13 of the questionnaire, consumers, by a substantial majority (765) said they would use free public transportation in place of their automobiles if it were available in their area. Many believe that there should be free transportation to medical clinics and facilities, both on an emergency and nonemergency basis, for senior citizens and the poor. Such services are now available to a limited degree in most communities, but funds are needed for more vehicles and more workers, both for local government programs and voluntary organizations.

Does the government have the right to *discourage* people from using their cars, encourage people to use the automobile more efficiently, and promote the use of carpooling? What methods is the government entitled to use and what ones should it not use in its efforts to create a balanced transportation system?

Do people need to be *protected against themselves?* In other words, does the government need to discourage excessive use of automobiles and promote increased use of public transportation because the people of their own volition will not take the necessary steps to reduce pollution and traffic congestion caused by excessive automobile use?

Should the government engage in an *advertising campaign* to promote increased use of public transportation or carpooling? Should public transportation be taught in the schools as an important alternative to use of cars? Should the government regulate automobile advertising as a method of dampening the industry's attempts to motivate the public to buy cars and travel by car? Or should the government adopt a laissez faire policy and let whichever form of transportation is favored by the public predominate?

Should the government, in its effort to create a balance among the different modes of transportation, place highest *priority* on (1) discouraging excessive use of the automobile; (2) promoting more efficient use of the automobile; (3) promoting carpooling; or (4) encouraging increased use of public transportation? How do these three methods of achieving a balance in our transportation system dovetail?

Evaluation Method:

Students use arguments for and against direct government promotion of public transportation in role-played dialogues between proponents and opponents of such government intervention.

Variation and Supplementary Activity:

Students can invite a government official to class to discuss students' ideas on what role the government should take, if any, in promoting use of public transportation.

MINI-UNIT 5

LEARNING TO SEEK REDRESS OF GRIEVANCES OVER PUBLIC TRANSPORTATION SERVICE

This unit is designed to help students develop two particularly significant consumer skills--the ability to determine when it is appropriate to complain about poor public transportation service and the ability to register appropriate and effective complaints. The unit also enables students to understand why operators of public transportation vehicles may have difficulty providing the level of service the public desires.

In addition, the unit promotes the development of positive attitudes toward redress of grievances--specifically, the attitude that there are both appropriate and inappropriate times and ways to complain about poor service.

For balance, the unit contains an activity devoted to vandalism against public transportation vehicles and facilities--a common grievance transportation operators and officials have against the public. By engaging in this final activity, students can place their expectations that public transportation provide good service in the context of their own responsibility not to abuse and service that is provided. Further, by focusing on the increased costs caused by vandalism, this activity provides a logical transition to Mini-unit 6 which deals with financing of public transportation.

The major concept addressed in this unit is that

- Citizens are more likely to secure redress of grievances if they identify methods for doing so which they can predict will be successful.

The skills and attitudes students learn in this unit are readily transferable to other consumer problems--ranging from poor performance of products purchased to lack of needed community services.

Even in communities in which there is no public transportation, the activities in this unit are valuable given this transferability of skills to other consumer problems. Furthermore, youngsters in these communities may someday move to cities or towns where public transportation is available, and these youths will need to know how to secure redress of grievances when they use those services.

MINI-UNIT 5 LESSON PLAN

Learning to seek redress of grievances over public transportation service

Activity #	*Activities*	*Class Time*
21[a]	DESCRIPTION: Students discuss seeking redress of grievances against unsatisfactory public transportation service. GOAL: To know when and how to register complaints against unsatisfactory public transportation service.	½-1 period
22	DESCRIPTION: Students role-play scenarios involving operators and users of public transportation vehicles. GOAL: To be able to register complaints for unsatisfactory public transportation service and demonstrate awareness of the constraints providers of such services may have in meeting those complaints.	1 period
23 Spirit Master #3	DESCRIPTION: Students research methods of filing complaints with different public transportation authorities and how each agency handles consumer complaints. GOAL: To know how to register complaints for unsafe, inefficient or unclean public transportation service.	½-1 period
24	DESCRIPTION: Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided. GOAL: To be able to register complaints about poor public transportation service.	1 period

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[a] This activity also appears in Mini-unit 1.

MINI-UNIT 5 LESSON PLAN (CONTD.)

Learning to seek redress of grievances over public transportation service

Activity #	*Activities*	*Class Time*
25[b]	DESCRIPTION: Students role-play and then discuss situation involving vandalism against public transportation vehicles. GOAL: To understand the problems caused by vandalism against public transportation vehicles.	½-1 period

Total Class
Time: 3½-5
periods.

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[b] This activity also appears in Mini-unit 1.

ACTIVITY #21*

Mini-Unit Topic: Seeking Redress of Grievances **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students discuss seeking redress of grievances against unsatisfactory public transportation service.*

Goal:

To know when and how to register complaints against unsatisfactory public transportation service.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Consumers need to decide for themselves which inadequacies in public transportation service warrant seeking redress of grievances.
- Consumers are more likely to secure redress of grievances if they identify complaint methods that are likely to be successful.
- Public transportation officials may not be able to redress all consumer grievances.
- Complaints to public transit authorities should be of sufficient detail to permit proper investigation by transit authorities.

ACTIVITY

Students discuss seeking redress of grievances over a variety of dissatisfactions with public transportation services. They can approach the topic of redress from four different but related perspectives:

1. Over what *issues* should consumers seek redress of grievances?

2. What should and could their *goals* be in seeking redress?

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*This activity also appears in Mini-unit 1.

3. What *methods* would be effective for seeking redress?

4. What *constraints* may be operating that may make it difficult or impossible to seek or obtain redress?

Students in small groups can discuss one or more of these issues, preferably in the order in which they are listed above, since that is the thought process through which a public transportation user should progress in order to successfully register a complaint. Each of these issues is discussed in more detail below. (In communities that have no public transportation, students who have traveled to other communities and used their public transportation systems can discuss any dissatisfaction they may have had.)

Students can be asked to decide (in their groups) what would have to happen to them in using public transportation that would make them feel they had a *right* to complain. Students should be encouraged to be specific in their "complaints," (for example, the bus number, route, and time of day). Examples might be frequent tardiness in departure or arrival times; sloppy, dirty, or unsanitary conditions (such as dirty windows, dirt on floors of vehicles or stations, and food on seats); failure to supply adequate services or supplies (such as lack of toilet paper and other bathroom supplies or too few cars on a train or buses on a route, resulting in crowding on available cars or buses or having to wait for the next train or bus); equipment inoperative or difficult to operate (such as windows that are broken, do not open, or open with difficulty); uncomfortable conditions (such as ripped, broken, or loose seats; inadequate heating or air conditioning; crowding; and poor lighting); safety hazards (such as dangerous driving practices, including tailgating, speeding, weaving in and out of traffic, running red lights, not stopping for railroad tracks if required by law; faulty equipment, including seats not properly fastened and inoperative or poorly operating windshield wipers; not coming to a complete stop when allowing passengers to board or disembark; and attacks by pickpockets or robbers); unpleasant operator attitudes and behaviors (such as anger, discourtesy, or insulting language and irresponsibility in terms of starting the trip on time, making unauthorized stops or detours along the route, or smoking in violation of vehicle rules). Having specifically identified examples of grievances for which they feel a passenger complaint would be justified, groups can generalize about what the nature of the grievance must be before a complaint is justified. For example, do all grievances about safety justify a complaint? Do grievances justify complaints only when several passengers are bothered? Groups report their justifiable grievances to the class and discuss the general reasons for which it is appropriate to register a complaint.

Groups then discuss what *remedies* they would want to seek for each of (or several of) the grievances they felt warrant complaints. For example, if one of their grievances is that a bus does not carry a first aid kit, their goal may simply be to have one provided. However, if the grievance is that a driver operates the vehicle unsafely, there are a number of goals a citizen could seek to achieve in registering a complaint, such as enforcing safe driving practices, having the driver reprimanded, or having other disciplinary action taken by the bus company.

Students can next identify the *methods* by which passengers can secure redress of grievances. The methods selected will vary with the nature of complaint and the goals sought in redressing the grievance. There are two steps in obtaining redress of grievances. The first is to *identify who has the ability and the authority to redress the grievance*--that is, who is in a position to make the desired change or require someone else to make the desired change. Possible people include vehicle operators, crew maintenance persons for vehicles and facilities, administrators of public transportation services at headquarters, regulatory agencies (including police, public health and safety boards), government agencies involved with health, safety, and transportation, and elected officials.

The next step is to decide *what methods will effectively accomplish redress*. Methods for obtaining redress of grievances include complaining in person; complaining by telephone or in a letter (sent return-receipt requested); phoning, writing to, or meeting with appropriate consumer protection organizations, business associations, legal groups, and governmental agencies; circulating petitions and forwarding them to one or more of the above groups or to the appropriate transportation authority; asking local media to publicize complaints in letters to the editors, articles, phone calls to talk shows, etc.; and taking part in demonstrations (such as sit-ins, rallies, and picketing).

Finally, students identify the *constraints* that may make it difficult to seek or secure redress of grievances.

Evaluation Method:

Students role-play dialogues in which "public transportation patrons" complain to "transit authority officials" about poor service.

Variations and Supplementary Activities:

Students in small groups can select an actual grievance against a local public transportation, discuss the best methods for seeking redress, and if motivated, seek to have the grievance redressed.

Students can identify possible grievances non-passengers may have against public transportation, such as excessive noise, air pollution, dangerous driving practices, and traffic congestion, discuss whether their grievances justify complaining and, if so, decide to whom to complain and how.

Students can invite a public transportation official to class to discuss grievances the public may have against public transportation service, whether these complaints are justified, and if so, what, if anything, is being done about them.

Students can investigate the complaints mass transit vehicle operators have against the public, including vandalism, rudeness, and unsafe behavior.

ACTIVITY #22

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play scenarios involving operators and users of public transportation vehicles.

Goal:

To be able to register complaints for unsatisfactory public transportation service and demonstrate awareness of the constraints providers of such services may have in meeting those complaints.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Public transportation employees may not be able to redress all consumer grievances.

ACTIVITY

Students role-play operators of public transportation services and passengers in everyday situations. A set of sample role profiles appears at the end of the activity. Students in communities that have no public transportation (as well as students whose towns do) can role-play the second set of role profiles, which focus on a carpooling dispute.

Choose students for each part and then proceed with the role-play using one of the following two approaches.

1. Send the students from the room or out of hearing. Read the profiles to the class and, if desired, briefly discuss the situation. Call the students back into the room. Each one then reads his or her role profile to him or herself.

2. Have the students chosen for the role-play read their profiles silently to themselves, act the situation out, and then read them to the class.

(The option you choose will, to some extent, determine the direction your discussion takes.) After using the role-play provided, have students develop additional role profiles and act them out.

After each role-play, participants discuss the feelings they had while role-playing. For example, the operators of the vehicles relate how they felt while in that particular situation. The passengers relate their feelings about the same situation. Non-participants discuss the pros and cons of each occupation role-played and the public's expectations of the people who hold these jobs. List on the chalkboard the skills and personality traits, as seen by the students, necessary for each job. Another list is drawn up of ways in which passengers and other motorists can aid operators of public transportation vehicles and, by so doing, help themselves.

Evaluation Method:

Students identify which arguments and techniques used in their role-plays would be most effective "in real life" and explain why.

Variations and Supplementary Activities:

You can invite someone from the personnel office of a public transportation mode to class to explain what skills and characteristics they look for in their employees and how the public can help improve service and make the system more responsive to its demands.

Students can develop the ideal public transportation employees and ideal passenger.

Students can write their own role profiles and act them out.

Students using public transportation can be on the lookout for especially helpful operators and can write letters to transit authority complimenting operators (and nominating them as "Operators of the Month" if the local transit authority runs such an award program).

Sample Role Profiles

Bus

Bus Driver

This is the first run of the day and already you are behind schedule. A heavy rain is making traffic very slow, you are frustrated, and your passengers are angry because you are late and they are wet. You try to do your best to stay on schedule and get people where they are going in time, but it's not always easy. Anyway, what can you do to improve the weather or the traffic? It's days like today that make you wish you had never learned to drive. Just now you are coming to a bus stop where someone is waiting in the rain to get on.

Passenger

This rain *has* to stop. This is the second time this week that it has poured, which means this will be the second time in a week you will be late for work and arrive soaking wet as well. You can't understand why it always takes longer for the bus to get places when it rains--you think service should be better on those days. And the shelter at the bus stop is too small for all the people who wait there. Again, today, you are standing out in the rain with no umbrella, getting very wet. And, when the bus does get here all the seats will be taken. You are getting angrier and angrier with each passing minute. If and when that bus gets here, you are going to give the driver a piece of your mind.

Carpool

Carpool Passenger

You are a member of a carpool that has one other passenger in addition to yourself. You all use the carpool for commuting from home to work and back each day.

However, although all three of you work at the same place, your job starts thirty minutes before your friends' starting time, and you get through with work thirty minutes before they do.

Since you have a different time schedule, you would like the carpool driver to pick you and the other passenger up half an hour earlier so you can get to work when your job begins. Otherwise, you have to work during your lunch break to make up for getting to work thirty minutes late. You would also like to leave thirty minutes early at the end of the day so you can get home that much sooner and relax.

You've decided to ask the driver if he will change his schedule for you. You feel that since you contribute the same $10 a month for gas and oil as the other passenger, the driver should make the change.

You have just telephoned the driver. What do you say?

Carpool Driver

You drive yourself and two other workers to work and home every day as a carpool, since you all work at the same place. Each of the two passengers gives you $10 a month to help pay for gas and oil.

However, you know that one of the passengers starts work and gets through with work thirty minutes earlier than the other passenger. You've been worried that he might ask you to pick him up earlier and take him home earlier. Since you own and drive the car, you could decide when to pick people up and take them home. And you really need the $10 each passenger gives you each month for gas and oil.

The problem is, you need to let your children off at school before you pick up your two friends and you may not have time to do that if you have to pick up the "early" worker thirty minutes earlier each day.

The "early" worker has just telephoned you. You wonder if he is going to ask you to pick him up earlier. What will you say if he does?

ACTIVITY #23

Mini-unit Topic: Seeking Redress of Grievances **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students research methods of filing complaints with different public transportation authorities and how each agency handles consumer complaints.

Goal:

To know how to register complaints for unsafe, inefficient or unclean public transportation service.

Concepts Treated:

- Public transportation authorities usually have mechanisms for processing consumer grievances.
- Some transportation authorities are more responsive to consumer complaints than are others.
- Consumers can increase the effectiveness of their attempts to seek redress of grievances if they learn how public transportation authorities handle consumer complaints.

ACTIVITY

This activity can be conducted by an entire class, by small groups of students, or by individual students. Ideally, the class breaks into small groups and each group conducts the research with a different public transportation service in the community. Examples of such services include bus lines, including not only public authorities but also any private companies (Greyhound, Peter Pan, Trailways, etc.) servicing commuters; commuter train lines; taxi companies; ferry operators; subway systems; and light rail systems. However, if only one such service is available, students must all investigate that one.

Each group seeks the answers to the following questions from the public transportation authority responsible for the service selected by the group:

1. What are the major types of complaints the system receives?

2. What kinds of people complain (elderly, poor, men, etc.)? Do certain types of people register primarily certain types of complaints?

3. With whom are complaints usually registered?

4. Are these the people to whom you would like complaints to be made? If not, why not?

5. Are there any interesting variations in the times when complaints increase or decrease--such as after fare increases or during certain periods of the year?

6. What is the authority's policy for handling consumer complaints? What is its procedure? What mechanisms and staff does it have to process complaints?

7. What constraints may make it difficult for the authority to be responsive to consumer complaints?

8. Have there been any law suits brought against the system by citizens? If so, what were the issues and the outcomes?

9. What complaints does the *authority* have against *users* of its services and against other citizens who affect the system? What, if anything, does the system do about its grievances against the public? Does it have an educational campaign to correct abuses by the public?

Groups conduct the research primarily through interviews with authority officials and employees, but students can also poll the public on its complaints against public transportation systems and whether they have registered their complaints with a transportation authority (see Spirit Master #3 for sample poll); read appropriate literature about citizen complaints, including promotional literature by the companies and *The Voice of the Transportation Consumer: Executive Summary,** which describes the results of nationwide hearings on citizens' complaints about transportation in the United States; and register consumer complaints of their own and review the experience.

After conducting their research, the groups analyze the results and prepare a written or oral report for the rest of the class. Comparisons are then drawn among the different authorities in terms of (1) which authorities receive the most complaints and why; (2) whether certain authorities receive different types of complaints than others; (3) which authorities are responsive to consumer complaints and why; and (4) which have a regularized procedure for handling consumer complaints.

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*Available from the National Technical Information Service: Springfield, Virginia 22151, for $5.25.

Evaluation Method:

Students investigate the means of redress for automobile repairs, airline travel, and intercity bus travel and then compare these with the channels for redress of consumer grievances against public transportation authorities.

ACTIVITY #24

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided.

Goal:

To be able to register complaints about poor public transportation service.

Concept Treated:

- Certain approaches are more effective than others in securing redress of grievances for poor public transportation service.

ACTIVITY

Students role-play citizens seeking redress of grievances from operators or crews of public transportation vehicles or facilities or the administrators of such services--people who, according to these consumers, have failed to provide appropriate transportation service. Sample role profiles appear at the end of the activity.

After each role play, participants read their role profiles to the class and discuss the feelings they had while role-playing. For example, the "operators" or "crew" of the vehicles or "administrators" of the services relate how they felt being confronted by a "citizen" and how different citizens' approaches and tactics influenced the way they responded or wanted to respond. "Operators," "crew," and "administrators" also indicate which citizen approaches (demanding, angry, reasonable, obsequious, threatening, etc.) inclined them to want to make concessions and why. Nonparticipants discuss what they would have said and done had they been involved.

After using the role profiles provided in the activity, students can break into small groups to write their own set or role profiles to be acted out.

After the students complete the role-plays, list on the blackboard the possible responses operators, crew, and administrators of public transportation vehicles and services can offer to justify their positions and the possible approaches citizens can use effectively to seek redress of grievances.

Evaluation Method:

Students describe some of the methods by which the public might be motivated to create a better balance between automobile and public transportation use in role-played dialogues between a town "transportation official" and a "news reporter."

Variations and Supplementary Activities:

Activity can be a class or small group discussion.

Students can treat the role profiles as the beginnings of stories and write different endings to them. Students can also write the endings to similar stories while other students, given these endings, write beginnings to them.

Role profiles can be developed in which handicapped persons are concerned about the lack of special consideration to meet their needs or profiles in which poor or minority persons complain about inferior service in their community.

Students can draft hypothetical letters of complaint in response to the problems described in the role profiles.

Students can role-play scenarios in which operators of public transportation vehicles complain to a public forum about passengers' improper behavior, including vandalism, rudeness, and unsafe behavior.

Students can visit the maintenance shop of a local public transportation agency for a tour which includes a discussion of how maintenance problems can affect the quality of public transportation service. (Many local bus agencies, for example, regularly provide such tours.)

SAMPLE ROLE PROFILES

Bus

Passenger

You, Ann Frost, take the bus every day to work and home. It's a convenient way for you to travel, because there is no place to park where you work unless you want to spend $3.00 a day to use a parking lot. However, the bus drivers on your route make your day begin and end unpleasantly, because they drive in ways that to you seem dangerous. They open the doors to let off passengers before the bus has stopped and sometimes don't come to a complete stop, expecting a single passenger leaving the bus to jump off while it is still moving. In addition, the drivers go very fast at times and then stop suddenly for a light or car, jolting everyone on the bus. By the time you get to work in the morning you're ready to return home and take the day off.

This afternoon, you took an early bus home because you are packing for a business trip you are taking tomorrow. The bus is almost empty and it seems like a good time to complain to the bus driver about his behavior and improve the safety of the ride to and from work every day. The bus has come to a stop at a red light. What do you say?

Bus Driver

You, Paul Cohen, drive the Main Street bus every day from Suburb Corner to Downtown Center. It's a frustrating job because of the traffic you have to cope with during the rush hour and the crazy rush hour drivers who try to cut you off all the time. And you have to make a time deadline with each trip or your supervisor--and the passengers--are liable to complain. Passengers make this difficult for you because they take all day to get on and off at each stop.

Right now you're driving back to Suburb Corner with a mostly empty bus because it's 3:00 P.M., well before the rush hour insanity begins. But there's this passenger seated in the front window seat who looks like she's been wanting to say something to you. You wonder if it's another passenger who's going to bend your ear with a tale of family woe or just someone asking directions.

Taxi

Passenger

You, Louis Rizzo, frequently have to use a taxi to get from place to place on your job. However, you find it extremely unpleasant some of the time because the taxi drivers are so reckless in the way they drive, speeding, weaving in and out, running red lights, and so on. In fact, you've resolved that in the future when this happens you're going to put a stop to it. They don't even have seat belts in the back seats in case you get into an accident--something that happened to a friend of yours only last week when the taxi he was in ran a red light and was struck by a car at an intersection.

Right now you're on your way to an appointment in a taxi whose driver has just run a red light, tailgated a slow truck for three blocks, and come to a sudden stop when the truck stopped for a pedestrian at a crossing. You've had it! What do you say?

Taxi driver

You, Susan Martinez, earn a living driving a taxi. By and large you like your job; it gives you the chance to be outdoors, see the city, and meet different people. But often the driving--as much as 12 hours a day, when you work overtime--really gets to you. The problem is that so many other drivers don't know how to drive properly. They drive at a snail's pace, come to a complete stop just to make a right or left turn, and panic at the sight of a light turning red. The only way you can keep your sanity in all this traffic is to keep moving as fast as possible--but still drive safely. You know that with all your driving experience you know what other drivers are going to do, so you can go faster than most people who lack your superior driving ability. Besides, the faster you take customers to where they're going, the more money you make--because then you can pick up a new passenger and get that $0.75 onto the meter right off the bat.

Right now you've got a passenger going downtown in you taxi who is probably in a big rush going to a business deal. But all the lights seem to be turning red just as you get to them; you had to run the last one. Now you've been stuck behind a truck that's driving slower than molasses. It just came to a quick stop for a pedestrian and you slammed on your brakes. Fool! Fortunately, you've got quick reflexes and can handle crazy drivers like that. But you hope your passenger gets to his meeting on time so you can get a decent tip. Right now he seems to be about to speak to you. You wonder if he's going to tell you to hurry up so he won't be late.

Train

Passenger

You, Darroll Porter, ride the Sutton Island Commuter Line every day to work. You could drive to work, but then you would have to contend with the rush hour traffic twice a day, not to mention the parking problem once you got to work. Besides, it's relaxing to take a commuter train. You can read the paper, chat with one or two friends who take the same train, and view the scenery--including the people getting frustrated driving through the morning or evening rush hour traffic! However, the rest room on the train you ride is often dirty and sometimes runs out of supplies. Since your trip takes 45 minutes, there are times when you would like to use it, because you have another 25-minute drive home from the commuter train station, and you've taken 15 minutes to get to the train from your place of work. Last night you had a headache on the way home from work and went into the rest room to take some aspirin, but you found no paper cups and the sink was filthy. Your headache promptly turned into a migraine! Since the train engineer is hard to find and probably has nothing to do with keeping the rest rooms clean and well stocked, you decided to talk to a train official.

Today, you left work early and walked into the office of the train supervisor at the downtown station. She has just ushered you in and offered you a seat. What do you say?

Train supervisor

You, Alice O'Connor, are the supervisor at the downtown commuter train terminal. Your job involves you in supervising all the commuter train runs for the city and making sure they run on time and operate efficiently. However, you are caught in something of a bind. Inflation has made it very difficult to keep from losing money in this business--in fact, the company list five million dollars last year. Labor salaries have increased and the cost of maintaining the tracks and trains has also gone up. But you're not responsible for setting fares, so you have no control over profits from that angle. All you can do is try to keep commuters happy and keep down the expense of operating the trains. However, this has led to some problems. You've tried to save some money by cutting back on the station staff responsible for cleaning up and servicing the trains when they come into the stations. You know this makes for poorer service, but how else can you make ends meet? Besides, some of these commuters just want to be treated like kings all for a 30 or 40 minute ride every day. After all, you're not running an airline or a luxury ship. For a trip of less than an hour, any passenger ought to be able to put up with a little inconvenience. How would these commuters feel if they had to drive to work in the traffic every day?

Right now, an angry looking man is in your office and you wonder if he's one of these "treat-me-like-a-king-or-else" commuters who's going to complain about the service.

Additional role profiles can be created by varying the mode of travel involved; the complaint being registered; the authority and position of the transportation official to whom the complaint is made; and the constraints under which the transportation official is operating.

ACTIVITY #25*

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: ½-1 period

Capsule Activity Description: Students role-play and then discuss situation involving vandalism against public transportation vehicles.*

Goal:

To understand the problems caused by vandalism against public transportation vehicles.

Concepts Treated:

- Complaints against public transportation service must be seen in the context of abuse against transit vehicles by some citizens.
- Vandalism against public transportation vehicles reduces the level of public transportation service for all citizens who use it.
- Vandalism increases the operating costs of public transportation systems.

ACTIVITY

Two or more students role play the scenario described in the role profiles at the end of the activity. (You may want to revise them first to reflect more closely actual conditions in the community.) Following the role-play, break the class into small groups to discuss one or more of the following issues:

1. What kinds of vandalism take place against public transportation vehicles (e.g., breaking windows, slashing seats, writing graffiti, stealing bus signs)?

2. What other kinds of activities do some people engage in that are destructive of the public transportation system (e.g., harassing

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*This activity also appears in Mini-unit 1.

passengers, harassing operators, yelling, swearing, fooling around, littering, fighting)?

3. Who tends to engage in these activities (e.g., boys or girls, teenagers, adults)?

4. On what occasions and why do these people do this (e.g., after sports events, when kids are in a group, after drinking too much alcohol, to let off steam, to gain approval from friends, peer pressure, to satisfy sadistic urges, to rebel against authority, to express frustration at economic or social conditions)?

5. What effects do vandalism and other inappropriate public transportation behavior have on safety (distracting the driver, making a vehicle unsafe to use or drive, removing or defacing traffic signs)? comfort? accessibility? costs of public transportation?

6. How can vandalism be prevented or reduced?

Small groups report their conclusions to the class and general discussion focuses on methods by which people can be encouraged to use public transportation appropriately and deterred from using it inappropriately. Examples of methods might be provision of additional security measures, such as guards; discontinuation of service in areas where vandalism is uncontrollable; refusal to allow persons found guilty in court of having abused the system from using it in the future for a specified period of time; cancellation of events which seem to precede instances of vandalism (e.g., athletic events, rock music performances); stringent control over access to alcohol at such events; and educational campaigns in schools and the media describing the self-destructiveness of vandalism. These methods must be considered in terms of how effectively they could be enforced and whether they would lead to the abuse of civil liberties.

Evaluation Method:

Students write a flyer or poster to be placed in the school library or office explaining why vandalism of public transportation vehicles should not be committed.

Variations and Supplementary Activities:

Students can interview or invite to class officials and operators of the public transportation system.

Students can interview public transportation authorities on the expenses necessitated by vandalism and report what they learn to the class.

SAMPLE ROLE PROFILES

School principal

Last night your school lost its semifinal game in the state school basketball tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. However, athletics are a big thing in your community, so you have to be careful that what you do doesn't damage the athletic program too much. And if you expel the students who were arrested, you'll have to deal with all their parents--and possible some angry people on the School Committee.

The meeting with the police chief, gym director, a basketball player on the team, and the transit authority administrator has just begun. What do you say should be done?

Transit authority official

Last night the school basketball team lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, you and the police chief have called a meeting this morning with the school principal, student council president, and gym director to discuss what should be done with five students who were arrested and to prevent a similar occurrence from happening again. In fact, this is the second year in a row this has happened, and you're determined it will not happen again. The town budget manager has threatened to reduce the amount of funding available for the bus system if it happens again. He argues, "Why should the citizens have to pay for repairing the buses and for providing bus service when these kids make it impossible for us to use buses safely and comfortably?" However, the bus system makes a lot of money from students who are passengers, so you don't want to lose their patronage, either. You feel if the police assigned an officer to every bus during events like this, the problem might be solved.

The meeting with the police chief, the gym director, the student council president, a basketball player on the team, and the school principal has just begun. What do you say should be done?

Student council president

Last night your school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded the buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. If it does, you are afraid the school will cancel tournament participation by your school entirely or else not let any students attend the play-offs. If this happened, you probably wouldn't be reelected student council president since your opponents would claim it was your fault these things happened. Besides, you don't think it's fair to punish the vast majority of students for the behavior of a few.

The meeting with the police chief, the school principal, one of the basketball players, and the transit authority official has just begun. What do you say should be done?

Basketball player

You are a sophomore guard on the school basketball team. Last night your school team lost its semifinal game in the state tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this happened, and you cannot afford to let it happen again. You desperately need a scholarship to go to college, and if you cannot play basketball--especially on a championship team--you may not be able to get one. Therefore, you think the students who were caught should be severely punished to set an example, and the gym director should make sure that kids don't bring beer into the gym. However, you feel you can't say these things too forcefully in front of the student council president, because he'll go around telling the other students that you wouldn't stand up for the kids and are thinking only of your scholarship.

The meeting with the police chief, gym director, student council president, transit authority official, and school principal has just begun. What do you say should be done?

Gym director

Last night, two state school basketball teams played their semifinal game in your gymnasium. Some of the kids from the team that lost had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot let it happen again. If it does, you are afraid you may lose your job, since it might be seen as your fault that the kids were able to bring beer into the gym. However, it's just about impossible for you to prevent this, since you can't frisk every student that comes into the gym nor can you keep an eye on them all during the games. Some of the kids even manage to hide their alcohol in the locker rooms and drink it there during half-time, when there are so many people milling around nobody can see what's going on. Therefore, you feel the solution is to have the school principal expel these students from the school as a lesson to other students.

The meeting with the policy chief, student council president, basketball player, transit authority official, and school principal has just begun. What do you say should be done?

Police chief

Last night the home town school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you want to prevent it from happening again. The town council has been accusing you and your staff of not doing their job to protect the community from kids making trouble for its citizens. The transit authority says you don't provide them with enough protection. The problem is, you feel it's the parents' responsibility to take care of these kids, not yours. Sure, you can throw the book at them and recommend they be sent to reform school or to jail, but there will be other kids next year who'll do the same thing all over again. Besides, once kids get drunk, there's nothing you can do to stop them from doing damage. Either the games should be canceled, there should be no audience, or the gym director should see to it that no beer is brought into the gym. However, you don't want to be responsible for getting the kids really angry. You've set up a community relations program with the town's teenagers, and if you come down hard on the basketball program or the students in the school you're liable to ruin all the good work you've done so far to improve police-teenage relations. Moreover, you don't have enough officers to patrol every bus, even if you wanted to.

The meeting with the gym director, a basketball player on the team, the student council president, the school principal, and the transit authority has just begun. What do you say should be done?

MINI-UNIT 6

LEARNING TO EVALUATE THE FINANCING OF PUBLIC TRANSPORTATION

This mini-unit focuses on how public transportation is and should be funded. The unit involves students in determining how they think the limited funds currently available for public transportation should be allocated. A presentation on current government funding of public transportation projects is also provided. The central issue of the extent to which the government should subsidize public transportation is treated in the final activity.

Although some of the issues dealt with in this unit are not as easily grasped as those of other units, the concepts involved can be understood by most high school students and, where possible, should be learned. The government's ultimate goal of attaining more balance in the use of all transportation modes rests in large measure on the extent to which public transportation is supported financially by Federal, state, and local governments, and the level of such funding will in part reflect what citizens want their government to finance.

The major concepts the unit addresses in addition to those described above are the following:

- Passenger fares usually provide only a portion of any public transportation system's operating expenses.
- Public transportation usually requires some form of financial assistance from the government.
- Public transportation systems have several elements requiring funding, including salaries and equipment maintenance.
- Priorities must be established in order to decide at what level to fund each element in a public transportation system.
- Citizens need to decide whether any form of travel should be subsidized by the government.

MINI-UNIT 6 LESSON PLAN

Learning to evaluate the financing of public transportation

Activity #	*Activities*	*Class Time*
26[a]	DESCRIPTION: The class discusses actions being taken by the Federal government to improve and promote public transportation in America. GOAL: To know what actions the Federal government it currently taking to promote public transportation.	½-1 period
27 Spirit Master #4, part one	DESCRIPTION: Students discuss and then investigate how transit authorities and government agencies do and should allocate their funds. GOAL: To be familiar with the elements of public transportation budgets.	1-2 periods plus out-of-class time
28[b]	DESCRIPTION: Students debate the cost-benefits of different forms of public transportation and of improvements in public transportation service. GOAL: To be able to evaluate the advantages and drawbacks of potential improvements in a public transportation system.	1-3 periods plus possible out-of-class time
29 Spirit Master #4, part two	DESCRIPTION: Students role-play legislators deciding what public transportation improvements or expansion to finance in their community. GOAL: To be aware of some of the possible effects public transportation can have on the life style, employment opportunities, and other aspects of the community.	1-2 periods

[a] This activity also appears in Mini-unit 4.

[b] This activity also appears in Mini-unit 1.

MINI-UNIT 6 LESSON PLAN (CONTD.)

Learning to evaluate the financing of public transportation

Activity #	*Activities*	*Class Time*
30	DESCRIPTION: Students discuss the extent to which public transportation should be subsidized by the government. GOAL: To be able to evaluate whether public transportation should be subsidized.	½-2 periods

Total Class
Time: 4-10
periods.

ACTIVITY #26*

Mini-unit Topic: Evaluating Public Transportation Financing

Approximate Class Time: ½-1 period

Capsule Activity Description: The class discusses actions being taken by the Federal Government to improve and promote public transportation in America.*

Goal:

To know what actions the Federal government is currently taking to promote public transportation.

Concepts Treated:

- The Federal government is promoting increased use of public transportation in order to promote balance in the use of all transportation modes.
- There are ways in which citizens can support the government's activity on behalf of public transportation.
- Citizens need to evaluate whether the government should be taking additional or different actions to promote increased use of public transportation.

ACTIVITY

In recent years the Federal government has assumed an increasingly important role in the development and maintenance of our nation's public transportation systems. In this activity, examine with your students the development of Federal assistance for public transportation and existing Federal programs and objectives.

Federal assistance for mass transportation began in 1961 with an emergency loan program and a small test and demonstration program. In 1964 the Urban Mass Transportation Act established a program of Federal matching grants for preservation, improvement and expansion of public transportation systems. Amendments to this act have provided broader program goals, higher funding levels, longer periods of assured Federal assistance and greater flexibility in meeting local needs. Funding increased from $50.7 million in 1965 to $133 million in 1970 to over $1.4 billion in 1976 for the purchase and construction of mass transportation facilities.

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*This activity also appears in Mini-unit 4.

The Federal Aid Highway Act of 1973 granted flexibility in the use of highway funds for public transportation purposes by opening urban system funds (previously targeted solely for highways) to transit, both rail and bus; and by opening all highway funds to exclusive lanes for buses, traffic control devices, bus shelters, parking facilities, etc. In addition interstate highway funds also were made available for non-highway public transportation purposes under certain conditions.

Federal Components

The Urban Mass Transportation Administration (UMTA) of the U.S. Department of Transportation bears the principal Federal responsibility for providing assistance to public transportation. In addition UMTA cooperates extensively with the Federal Highway Administration (also of the Department of Transportation) in providing a coordinated Federal approach to public transportation programs. Both administrations also work cooperatively with the U.S. Department of Housing and Urban Development and the Department of Health, Education and Welfare.

Immediate Goals

The Federal government assists and promotes public transportation systems through programs of financial aid to local public bodies (such as municipal governments or a local transit authority) and through research, development and demonstration grants. Specific goals include the following.

Mobility of Nondrivers. This objective is directed to identifying, studying and ultimately serving the transportation needs of the transportation disadvantaged--the young, aged, poor, handicapped, unemployed, and secondary workers. These groups include those who generally do not have reasonable access to alternative forms of transportation and are often deprived of mobility where public transportation is inadequate or nonexistent.

Relief of Traffic Congestion. This objective seeks improvement in overall traffic movement and travel time in urban regions especially during peak hours of travel demands.

Improving the Quality of Urban Environment. This objective requires achievement of land use patterns and environmental conditions that effectively contribute to the physical, economic and social well being of urban communities. Public transportation improvements--designed to help reduce the noise, odor, vibration, and other adverse impacts on the urban environment--are to be encouraged as a contribution to the improvement of the environment.

Examples of Federal Assistance

Many grants exist. For example, capital improvement and planning grants are awarded to local public bodies and provide 80 percent of the cost for new system equipment and modernization of transit facilities. Local bodies provide the remaining 20 percent of the costs; operating assistance grants are awarded to local public bodies and provide up to 50 percent of the cost of operating a transit system. Research, development and demonstration grants are provided to private and public organizations for studies, tests, and demonstrations of new ideas, methods, systems and equipment for improved transportation planning and operations. Technical studies grants are awarded to local public bodies and provide up to 100 percent (UMTA administrative policy dictates 80 percent) of the cost for engineering plans and design of urban mass transportation systems, and for other planning studies. Managerial training grants are awarded to personnel employed in managerial, technical, and professional positions in the urban mass transportation field for advanced training. University research and transportation grants are awarded to nonprofit educational institutions and combine comprehensive research and research training in urban transportation problems. Finally, rural highway public transportation program grants are available to public bodies to test possible methods of improving transportation services for rural residents.

The Grant Process

Each program of the Federal government has specific procedures and requirements for funding. Given below is an example of the grant process for UMTA capital grants.

Public bodies must submit a preliminary application for purpose of ascertaining the probable eligibility of the applicant and project and the availability of Federal funds. If a positive decision is reached, then detailed engineering, planning, financial and legal data must be set forth in a final application. Any application for capital grants must include a transcript or certification that a public hearing was held on the proposed project prior to submittal of the final application.

The preliminary application must include such items as a list of capital facilities for which the grant is requested; description of current system; benefits to be derived; estimates of the total cost; portion to be financed from local revenues and the source of such funds; arrangements that exist or will be made to insure continuing public control over the operation or use of facilities. The application must indicate whether the project will adversely affect employees of the transit system or result in relocation of families or business and must include draft environmental analysis.

Priority for UMTA capital grants is given to funding proposals that reinvigorate public transportation in order to provide service that will attract new riders regardless of their social or economic group or the purpose of their journey; provide better general service and develop special services to provide for substantial groups of people who are totally dependent on public transportation; and promote transit as a positive force in influencing and supporting desired development patterns in urban areas and improving environmental conditions.*

Future Federal Directions

Future programs will provide general fund financial assistance to help urban areas, and improve the quality and quantity of public transit. They will encourage local urban planners to bear more of the burden of deciding which of the many competing programs they wish to promote, given the limits of financial resources, and which they will defer. These are decisions that can best be made at the local level with Federal help in providing the data, guidelines and criteria needed to make prudent decisions. Attempts will be made to develop and encourage local areas to implement various incentive systems to force more efficient vehicular usage of our existing streets and highways, to continue to seek better mass transit technology, such as improved bus design, and to assist in effort to form carpools.

After this general overview, give specific examples of programs the government has funded to achieve both its general objectives of providing safe, convenient, and fast public transportation services and also its specific goals described above. Examples of Federal government activity are provided at the end of the activity.

After the lecture, discuss with students the following issues:

1. How can citizens help the government to take effective actions to promote public transportation--for example, by attending hearings, by writing their opinions to the government, and by getting involved in regional transportation planning efforts?

2. Does it seem that the government's actions are effective? How can you tell? Are they appropriate? Why?

3. Are there other actions the government should be taking but isn't? If so, what are these actions? Why might the government not take these actions? What constraints may make it difficult for the government to take further action? Are there or have there been in the past pressures on the government not to allocate funds for public transportation?

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*_External Operating Manual_ of the Urban Mass Transportation Administration, 1972.

Evaluation Method:

Students act as "government public information officers" and describe the government's efforts to promote public transportation to "the press" (the rest of the class).

Variations and Supplementary Activities:

Students can role-play a government information officer being interviewed on the government's actions to promote public transportation.

Students can research whether their transit authority has received assistance from the Federal, state, or local governments.

Federal Government Support of Mass Transit In Recent Years*

Community Improvements

In recent years, funds have been appropriated in communities for improvements and purchases of public transportation facilities and vehicles. For example, the County of Hawaii received $474,852 to assist in the purchase of ten new passenger buses, bus signs, and related equipment. A grant of $107 million went for transit improvements in the Chicago, Illinois metropolitan area, including $75 million to the Chicago Transit Authority for extensive renovation, installation of service and maintenance equipment, and the purchase of 6000 new buses; $12 million to the West Suburban Mass Transit District for the purchase of 20 new double-deck rail commuter cars, four locomotives, spare parts, and related items; $11 million to the Illinois Department of Transportation to assist in the purchase of land and construction of commuter rail passenger automobile parking facilities in 19 suburban communities. The grant also includes relocation payments for persons and businesses that are displaced by the construction. A grant of $800 million to the Metropolitan Atlanta Rapid Transit Authority (MARTA) to assist in the construction of its rapid transit system represented the most significant Federal transit commitment ever made to any urban area in the nation. Other grants included $2,870,068 to the Delaware Authority for Regional Transit (DART), Wilmington, Delaware for the purchase of 48 new passenger buses, nine service and maintenance vehicles, 113 two-way radios, 48 fareboxes, 43 bus stop shelters, 2000 bus stop signs, and environmental improvement equipment and grants worth $20,800,000 to 47 states for direct transit assistance to elderly and handicapped persons, with which a total of 2283 vehicles are being purchased to aid the mobility of elderly and handicapped persons.

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*Contact the Urban Mass Transportation Administration, U.S. Department of Transportation, Washington, D.C. 20590, for list of most recent grants awarded for public transportation.

Demonstration Projects

Funds also go for demonstration projects in various communities which seek to indicate the success of different public transportation innovations, such as projects designed to test accessibility of public transportation for the handicapped and the elderly or new marketing and management techniques. A grant of $495,500, for example, went to Lower Naugatuck Valley of Connecticut for a system including limited fixed route service, flexible route demand-responsive service, contract bus service for social service agencies, and an automated collection system using credit cards and monthly billings. Grants of $415,984 to New York Metropolitan Transit Authority and $334,375 to Southern California Rapid Transit District allowed an examination of the feasibility of double-deck buses in regular transit routes and a study of public acceptance of the buses.

Industry and Research

Funds for industry and research institutions aid research and development of new or improved public transportation vehicles and facilities. For example, a contract of $8 million was awarded for the construction of an experimental prototype of a two-car advanced concept train (ACT-1) to be powered by a revolutionary energy-storage flywheel propulsion system to utilize electric power more efficiently. The operational data collection system is being developed, the objective of which is an integrated set of equipment that will automatically measure and record bus passenger activity, revenues collected and miles driven and relate this activity to time points on a line or route; thereby improving on present techniques of collecting and handling the operation information, essential for management, concerning a day's activity on a bus. By July, 1975, two "off-the-shelf" and three development automatic passenger counters, a registering farebox, an electronic odometer, and an on-board cassette recorder will have been tested, the counters in revenue service. Also being developed is the intermodal automatic fare collection system. The objective is to develop a fare collection device for buses that can accept magnetic cards utilized by rapid rail transit systems, which will improve passenger convenience and the collection of data concerning total system revenues and passenger activity. If the tests are successful specification will be written and action taken to procure two engineering prototypes of the integrated system in 1976. Successful testing of the prototypes would be followed by production and demonstration in 1977. Yet another experiment is the transit security system demonstration. Its object is to install, demonstrate, and evaluate the effectiveness of security devices and techniques at selected rail transit stations on the Chicago Transit Authority System. Such devices include closed circuit TV monitoring, public address system, emergency telephones and alarms, and ticket agent alarms and intercoms.

Other Research

Funds go also to communities and educational institutions for research and for training managerial, technical, and professional personnel in the urban mass transportation field. For example, a grant of $150,000 was awarded to the Massachusetts Institute of Technology to provide research on control procedures for Dial-A-Ride, a bus system in which people phone the bus company requesting that the bus stop at their home.

Promotion

Promotion of the use of public transportation through a comprehensive marketing and education plan is also encouraged. The transit marketing program demonstration seeks to support the communication plans and service development as an integral part of the transit marketing project begun in FY 1974. The transit marketing project is designed to develop a basic transit marketing methodology and demonstrate its validity. The market research phase of the project was completed in July 1975. Transit service planning, service modifications, communication and user information in each of the test cities, Baltimore and Nashville, will be funded by this program. Results of the marketing project are intended for nationwide dissemination.

The transit user information project seeks to demonstrate the application of a comprehensive series of activities for conveying information about transit services to the public. It is specifically intended to demonstrate the effectiveness of dissemination techniques and tools currently being developed. Market research indicated a significant need to facilitate access to transit information for current and potential transit users. This need reflects the increasing complexity of transit schedules and routes, the use of a variety of fare structures and the general unfamiliarity of nonusers and new riders with transit systems. In this context, effective information dissemination is critical to wider public utilization of mass transportation.

The transit industry marketing handbook project is creating a marketing manual for transit managers. The manual will include substantial new transit marketing information and techniques resulting from considerable advances in the state of transit marketing and, equally significant, changes in the marketplace. The manual is being developed in response to the industry's need for a basic source of information for transit marketing, a basic element of improving system productivity and efficiency. This guide brings together, in a single convenient source, all the major information relating to transit marketing. Timely revisions will assure continued relevance of this manual to the transit manager.

The MBTA prepaid pass evaluation is a study enabling the Massachusetts Bay Transit Authority (MBTA) to evaluate the concept of a prepaid transit pass program designed to promote the increased use of transit by allowing employees to buy annual travel passes through convenient payroll decuction. Employers participating in the program include the John Hancock Mutual Life Insurance Company, the City of Boston, the Commonwealth of Massachusetts and the U.S. Department of Transportation's Transportation Systems Center.

Finally, there is transit marketing training and education. This has several levels: (1) A two-day seminar for general managers, transit board chairmen, and other appropriate high-level decision makers for transit systems in SMSAs of over 200,000 population, held June 9-10, 1975, gave a comprehensive, working knowledge of marketing. (2) A two-and-a-half-day workshop for transit marketing personnel, held June 18-19-20, 1975, afforded an opportunity to improve understanding, knowledge, and ability to use marketing techniques and tools. (3) A university course on transit marketing, both a basic course for teaching transit marketing at colleges, along with appropriate support materials, will be developed to be distributed to appropriate educational institutions for inclusion in existing or contemplated transportation courses, and UMTA will also assist a major university in establishing an annual two-week marketing training seminar for novice transit marketing personnel.

ACTIVITY #27

Mini-unit Topic: Evaluating Public Transportation Financing

Approximate Class Time: 1-2 periods, plus out-of-class time

Capsule Activity Description: Students discuss and then investigate how transit authorities and government agencies do and should allocate their funds.

Goal:

To be familiar with the elements of public transportation budgets.

Concepts Treated:

- Passenger fares usually provide only a portion of any public transportation system's operating expenses.
- Public transportation usually requires some form of financial assistance from the government.
- Public transportation systems have several elements requiring funding, including salaries and equipment maintenance.
- Priorities must be established in order to decide at what level to fund each element in a public transportation system.

ACTIVITY

Students begin this activity by breaking into small groups and responding to the following scenario (provided on Spirit Master #4, part one).

> You represent the local transit board in your community and are responsible for running the town's bus system. There are ten buses to service the 100,000 people in your community. The town council has provided you with an appropriation of $100,000 to spend as you see fit on the bus system next year. In addition, you can expect to take in $83,000 in fares next year. The town council would like to know how the transit board intends to spend the money and what additional funds might be required.

1. What costs are involved in the operation of a bus system? (e.g., salaries, gasoline, insurance, maintenance and repair of buses and facilities)?

2. Which of these are fixed and recurring costs over which there is little discretion?

3. Is the total budget of $183,000 sufficient to operate the bus system for one year? Can the budget be reduced? If not, where can the town go for additional funds? Can it qualify for Federal or state funds?

4. Are improvements needed for the system (e.g., new buses, bus shelters)? Are there sufficient funds remaining from the $183,000 available? Would the town qualify for grants from the Federal or state government?

> *Teachers note:* Listed below are examples of the size of bus systems and the source of financing for cities of 100,000 and one million people.

Population	1,000,000	100,000
Number of buses	400	10
Passenger fares	$11,000,000	$ 83,000
City support	$ 3,500,000	$100,000
Federal support	$ 3,500,000	$100,000

After answering these questions, each group reports its results to the class and discusses both any differences about which items will need financing and also disagreements over what level of funding each item should receive. The class, or a small delegation, then develops a brief questionnaire about how funds for public transportation are allocated and interviews (or invites to class) an official of a local public transportation agency and asks him or her the following questions:

- What items need funding in your particular public transportation system?
- What percentage of the available monies are spent on each item?
- What are the fixed costs (e.g., salaries, gasoline, repairs, insurance)?
- Who is responsible for establishing these allocations?
- What role can and should the public play in determining what these allocations should be?
- Where does the money come from that finances the public transportation system?

After conducting their interviews, students compare the answers the public transportation officials gave them with their own answers developed at the beginning of the activity. If differences are found in any allocations by the students and the officials the class discusses the differences. Were there expenses that the class did not anticipate? How would they change their own spending priorities as a result of the talk with the public transportation official?

Evaluation Method:

Students describe how transit authorities spend their funds as if the pupils were authority spokespeople explaining the budget to the local legislature or other government body.

Variations and Supplementary Activities:

As a more informative variation on this interview activity, the class can break into several small groups, with each group responsible for interviewing the officials of a different public transportation system, including bus, taxi, subway, light rail (trolleys), waterway, and commuter rail. Groups can then compare results. For example, does one system spend more money (in relative or absolute terms) to service customer grievances than the others? If so, why?

Students can research what percentage of the town's total budget is allocated to public transportation and whether this figure has changed over the years.

Students can compare their public transportation system's budget breakdown with nationwide statistics (see chart above).

Students can investigate where the town's money for public transportation comes from: property taxes? the state? the Federal government? a combination of sources?

ACTIVITY #28*

Mini-unit Topic: Evaluating Public Transportation Financing

Approximate Class Time: 1-3 periods, plus possible out-of-class time

Capsule Activity Description: Students debate the cost-benefits of different forms of public transportation and of improvements in public transportation service.*

Goal:

To be able to evaluate the advantages and drawbacks of potential improvements in a public transportation system.

Concepts Treated:

- Most improvements in public transportation service involve financial and sometimes other costs as well as benefits.
- Citizens need to be able to evaluate the costs and benefits of potential improvements in public transportation service.

ACTIVITY

Begin the activity with a brief discussion of the concept of cost-benefit. Cost-benefit involves answering the questions "How much will it cost to achieve what specific benefits?" and "Are the benefits worth the cost?" Costs can be not only financial but also social and personal. For example, what would it cost to provide ten new buses? Who would pay the costs? What would the benefits be from such a development: how many more passengers would be served, how much rush hour crowding would be relieved, and what new neighborhoods could be served? Before promoting a public transportation improvement, citizens need to consider the cost-benefits of the measure they are advocating to determine whether their goal is worth seeking.

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*This activity also appears in Mini-unit 1.

You can provide an example of a cost-benefit analysis by discussing with the class the relative advantages and disadvantages of light rail as opposed to buses--for example:

- Light rail is cheaper to operate: several cars can be hooked together and run by a single operator.
- Light rail requires heavy initial expenses for track and roadbed construction.
- Light rail requires track maintenance.
- Mechanical failure on one streetcar can halt an entire line.
- Light rail can travel quickly, with few or no traffic delays.
- Buses have a high operating cost (gasoline, repairs, etc.) and depreciate more quickly than streetcars.
- Buses are flexible: they can travel down most streets and be rerouted as new travel needs occur.
- Buses pollute; light rail is nonpolluting because it runs on electricity.

After this initial cost-benefits discussion, small groups of four to eight students briefly research (if necessary) and then debate the pros and cons of a different public transportation improvement or expansion. Each group chooses an issue and decides who is going to defend which position on the issue. Group then splits into two or three debate groups and each subgroup researches its point of view. Subgroups can conduct research by discussing and refining arguments for their position, and predicting the opposing side's arguments and developing counterarguments; reading available literature; and interviewing appropriate members of the community and officials in governmental, private, and public agencies. After completing research, groups agree on how much time to allow each side to present its arguments, rebuttals, and concluding remarks. Each group decides who will judge the debate (other students? other teachers? parents?) and how the debate will be scored.

Students can create topics around hypothetical public transportation improvements or select improvements that have recently been instituted or are currently under consideration in the community or elsewhere in the country. Students debate the issues in terms of the cost-benefits involved. Sample hypothetical issues which students can debate follow.

- Resolved, that the town should buy ten new buses.
- Resolved, that all the buses should be air-conditioned.
- Resolved, that special bus lanes should be provided on all major highways during rush hour.

- Resolved, that cars should be banned from the central business district between the hours of 7 and 10 on weekday mornings.
- Resolved, that parking meter rates should be doubled.
- Resolved, that a tunnel (bridge) should be built under (over) ____________________ lake (river, etc.) for use by rapid transit trains.
- Resolved, that the subway should be extended to ____________________.
- Resolved, the dial-a-ride (buses picking up passengers who call in for a ride) should be instituted in the ____________________ section of town.
- Resolved, that fares on the buses should be doubled (halved, eliminated for the elderly, etc.).
- Resolved, that schools should conduct at least a one-week unit on public transportation at the elementary, junior and senior high levels.
- Resolved, that ferry service should be provided between ____________________ and ____________________.
- Resolved, that the town's buses be redesigned to accommodate the handicapped.
- Resolved, that buses should (not) institute an exact fare (no change given) system.
- Resolved, that each subway train (or bus) should have an armed security guard on it at all times.
- Resolved, that youngsters and adults who vandalize public transportation facilities should be prosecuted to the fullest extent of the law.
- Resolved, that the Federal (state, city, etc.) government should actively publicize and promote the use of public transportation.

Evaluation Method:

Students apply cost-beneift analyses to recent, current or proposed improvements in a local or well known public transportation system.

Variations and Supplementary Activities:

After each topic is debated, one or both teams can make an appointment with an appropriate government agency to present its conclusions and solicit responses.

Activity can be conducted as a class discussion.

Students can discuss *who* should determine whether the costs outweigh the benefits on a particular public transportation improvement.

Students can research what the cost-benefits have been on earlier public transportation improvements.

Students can research the political process by which a public transportation improvement was instituted, blocked, or instituted and then rescinded.

Students can invite representatives of a community or government agency to class to discuss the class position on various possible public transportation improvements.

ACTIVITY #29

Mini-unit Topic: Evaluating Public Transportation Financing

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students role-play legislators deciding what public transportation improvements or expansion to finance in their community.

Goal:

To be aware of some of the possible effects public transportation can have on the lifestyle, employement opportunities, and other aspects of the community.

Concepts Treated:

- In most communities, more improvements in public transportation service are needed than there are funds to finance.
- Criteria must be developed for use in deciding which public transportation improvements are needed most.

ACTIVITY

Break the class into small groups of three or four students and give each group the following role profile (available on Spirit Master #4, part two).

> You are in a committee meeting with three other members of the town subcommittee on transportation. Your committee makes recommendations to the town council on all transportation issues for your community. During the last few years, traffic congestion and air pollution have become problems in your community. The town council has asked your committee to develop both immediate and long-range plans to reduce traffic congestion and pollution from automobiles. They have indicated their willingness to support improvements to the public transportation system with the limited financial resources they have available but feel that they will probably have to seek assistance from the state and the Federal government, at least on long-range solutions. They also feel that some of the surrounding communities should assist in their efforts

since some of their residents work in the town. The town council has indicated that they can provide $___________ (50,000 population - $100,000; 200,000 population - $500,000; 500,000 population - $2,000,000; 1 million population - $25,000,000) from this year's budget.

What recommendations will you make to the subcommittee and how will you support those recommendations?

Immediate solutions you might wish to suggest that the subcommittees consider include downtown bus loop, incentives for increased use of carpools, the purchase of new buses, and increased taxes on parking (increased town revenue might then be channeled to public transportation operations). Long-range goals might be adding subway stops, new bus routes, or commuter rail extensions; creating a light rail (trolley) system; constructing fringe parking facilities; and making special lanes for buses and auto-restricted zones.

Finally you can choose to instruct the subcommittees to specifically consider one or more of the following issues in their deliberations:

1. What will the environmental effects of the new or expanded system be?

2. What effects will the expansion or improvement have on the use of automobiles and traffic congestion?

3. Will the expansion provide employment opportunities for community residents? Is this an important consideration to be kept in mind?

4. Will the expansion create a need for additional transportation facilities to service the new or extended system--for example, additional parking facilities? waiting stations?

5. Will the expansion require land that must be taken from homeowners, renters, businesses, farms, or community agencies?

6. How much will each project cost? Where will the money come from (bond issues; increase in taxes; Federal government; state government)?

7. Will the surrounding communities cooperate in the plan?

After making their decisions subcommittees report their choices to the town council (class), which criticizes and questions the choices. In particular, the class compares the different choices the various subcommittees made and their reasons for their selections. You should stress the importance of master planning in the development of new or expanded public transportation systems, such as involving all citizens and citizen groups in the planning effort; considering all possible effects of the construction, expansion, or relocation on the community in general and on other transportation problems and facilities in particular, and preventing future problems before they occur rather than trying to solve problems once they exist.

Lastly, the class discusses the general criteria that can be applied to the decision of what public transportation system improvements can and should be made in a community. Class does this by analyzing the reasons the subcommittees gave for selecting a particular public transportation improvement and generalizing from those reasons. For example, if a subcommittee opposed a commuter rail line extension because of the number of homes that would have to be displaced to construct it, the class can identify "extent of people displacement" as a criterion by which to evaluate public transportation expansion. Other possible criteria follow:

1. How many people will be negatively affected vs. how many people will be benefited?

2. How serious will the negative effects be? How beneficial will the positive effects be?

3. Are there any opportunities for those affected to avoid the negative effects?

4. Will there be harmful effects on the natural environment, for example, wildlife, open space, plants, trees?

5. Can major changes in land use around the proposed extension be anticipated?

6. Will there be a significant reduction in the use of automobiles and therefore of pollution or traffic congestion?

7. Will travel by those with transportation handicaps be facilitated--including travel by the handicapped, the elderly, the poor, children, and the geographically isolated?

Evaluation Method:

Students defend or criticize a recent, current, or proposed expansion or improvement in the local public transportation system or in some other system with which they are familiar.

Variations and Supplementary Activities:

Students can be assigned roles of various community people and asked by the subcommittees to testify on needed public transportation.

If the town council voices strong objections to one or more subcommittees' choices, it can send the committee back into session to reconsider their decision.

Students can select a recent or current public transportation expansion effort and research the extent to which it was or is being evaluated in terms of the concerns the various subcommittees raised about the proposed plans.

Students can interview community residents on their opinions about what public transportation system expansions are most needed and why.

Students can invite officials from the community's public transportation systems to class to discuss what kinds of additions to the public transportation system they feel would be desirable. These officials can evaluate the subcommittees' choices.

Students can interview these officials.

ACTIVITY #30

Mini-unit Topic: Evaluating Public Transportation Financing

Approximate Class Time: ½-2 periods

Capsule Activity Description: Students discuss the extent to which public transportation should be subsidized by the government.

Goal:

To be able to evaluate whether public transportation should be subsidized.

Concepts treated:

- In most communities, public transportation cannot operate solely with revenues generated by fares.
- There are many programs in the public interest requiring financial assistance from different levels of government.
- Citizens need to decide whether any form of travel should be subsidized by the government.

ACTIVITY

In most communities, passenger fares do not provide sufficient revenues to operate the local public transportation system. For example, in 1975 passenger revenues throughout the U.S. accounted for only 54 percent of all transit operating revenues, and public transportation systems had a combined net operating loss of $1.7 billion. All levels of government have been called upon to respond to the financial problems of public transportation. In 1975 alone, local governments provided $699 million, state government, $400 million and the Federal government, $302 million in operating subsidies to transit authorities. This does not include the substantial capital costs (e.g., the purchase of buses and other equipment) which are now supported substantially by the Federal government ($1.4 billion in 1976).

In most European countries, public transportation has been heavily subsidized by the government for years. However, in the United States the question of whether government should provide substantial subsidies for public transportation is still a matter of concern.

Before addressing the issue of subsidies for public transportation, students should consider why it has not been possible in recent years for transit systems to be self-supporting by examining such issues as the decline in ridership since the 1940's; higher cost of operation, e.g., salaries, gasoline, etc. (note: operating costs per passenger vehicle mile have risen from 20¢ in 1940 to nearly 60¢ in 1960 to nearly $1.80 in 1975; the average salary of transit workers has increased from $1773 in 1940 to $5481 in 1960 to $13,993 in 1975); and difficulty in raising revenues (e.g., fare increases and their often negative impact on ridership and revenues).

Students should then consider the types of assistance provided to various modes of transportation and to other transportation programs in the public interest. Many such programs have been a regular part of government services for years while assistance to public transportation is a fairly recent addition. As late as 1968, the Federal government provided only $1.1 million for mass transportation, while annual Federal support for highways totalled over $2 billion. Examples of current Federal support for public transportation are given in Activity 19. Examples of assistance for automobiles and highway travel are given below, for a starting point in the discussion.

Until recently the highway trust fund, which is composed of the four cent tax on gasoline and other miscellaneous taxes on motor vehicles and equipment, was restricted to highway-related activity. In 1973, legislation opened a portion of the highway trust fund to public transportation projects. However, the majority of the trust fund remains committed to highway-related functions. Is the trust fund a form of subsidy to the highway user or are drivers of motor vehicles contributing to the cost of the highways they use by paying the four cent gasoline tax and other taxes which make up the highway trust fund?

Is the oil depletion allowance (which is a tax break for oil companies) a form of subsidization for automobiles because it enables gasoline companies to charge lower gasoline prices to people who use cars?

Cities and towns use real-estate taxes partly to build and maintain streets and roads. Is this a form of subsidy for the automobile because residents who live in central city areas and tend to have fewer cars and use them less than other city residents must contribute to the support of roads they may not use at all or very often?

The expense of policing and maintaining (repairing, plowing in winter, etc.) highways and of traffic signals and court time (to process traffic offenses) costs most communities much more than automobile drivers contribute in gasoline and car excise taxes. Does this amount to a form of subsidy for automobiles, since the tax money used to pay for these services is contributed by nondrivers as well as drivers?

Many or most highways and roads are built to accommodate rush hour traffic. Does this mean that people who drive at other times of the day are in effect subsidizing those who use the roads during peak-hour commuting?

Is free parking in company parking lots a fringe benefit provided in place of higher salaries which therefore favors automobile owners over nonowners? Should companies subsidize workers who commute by bus, train, or subway by paying all or part of their commuting costs?

After considering different types of government assistance, students should address the issue of whether it is in the public interest for government to assist in the operating and capital costs of public transportation. Use the following statements as points of debate:

Argument One. Public transportation should be considered a vital feature of living in a community, like garbage collection, sewer waste disposal, and police and fire protection. Just as many communities provide these services out fo the general tax revenues, so should they provide public transportation.

Argument Two. Citizens can select between public transportation and the automobile. In a number of ways, most citizens have clearly indicated their preference for automobile travel. Government officials should therefore seek to make automobile travel as efficient and safe as possible, rather than spend tax money on public transportation.

Students might also consider the effects on society if public transportation service were eliminated or reduced substantially. Students might examine the effects of recent public transportation strikes to gain an idea of what it might be like without public transportation.

Evaluation Method:

Students list the arguments for and against government subsidies for public transportation in their community in particular and in general throughout the nation.

Variations and Supplementary Activities:

Students can examine the revenue problems and revenue sources of the transit system in their area.

Students can examine the sources of local government contributions, e.g., property taxes, sales tax, etc.

MINI-UNIT 7

EXAMINING GROUPS WITH TRAVEL PROBLEMS

This mini-unit focuses on (1) the failure of public transportation in some American communities to meet the needs of the transportation disadvantaged; (2) the difficulty in providing public transportation service for some of these people in ways that are not excessively expensive; and (3) possible solutions for these groups' travel problems, including carpooling and more efficient use of automobiles.

The unit addresses three groups of people who suffer transportation handicaps: rural dwellers, people with physical handicaps (including the elderly) and groups who are socioeconomically disadvantaged.

The transportation problems of rural dwellers--many of whom neither have access to public transportation nor, because of their low income, the use of an automobile--merit study not only by students who live in the countryside but also by suburban and city students. Only by studying rural public transportation can students gain a rounded perspective of the problems associated with inadequate public transportation in our country and our unbalanced use of transportation modes.

People with physical handicaps, whether hampered by old age, blindness, deafness, or paraplegia, often have great difficulty taking advantage of public transportation since many buses, subways, and taxis are not designed to accommodate their handicaps.

The poor and minorities are often unable to take full advantage of public transportation for a variety of reasons, including lack of adequate service in their neighborhoods, lack of money (for example, to use taxis), difficulty reading or speaking English, and discrimination (for example, refusal by some taxi drivers to pick up passengers in ghetto areas).

This unit also addresses historical factors which may explain why public transportation services are inadequate in some communities and nonexistent in others.

Other concepts treated in the unit include the following:

- Rural dwellers are largely without public transportation services and therefore dependent on automobiles for most of their travel needs.
- Many rural dwellers do not own automobiles and therefore some of the travel needs go unmet.
- The public needs to consider whether public transportation should be designed to accommodate the needs of the transportation handicapped, and if so, how.
- One partial solution to the lack of public transportation available to the transportation handicapped may be carpooling.

MINI-UNIT 7 LESSON PLAN

Examining groups with travel problems

Activity #	*Activities*	*Class Time*
31	DESCRIPTION: Students research why public transportation service in many communities is inadequate. GOAL: To be aware that transportation service in American communities is often inadequate.	2-4 periods plus out-of-class time
32 Spirit Master #5	DESCRIPTION: Students discuss the problems of rural transportation and ways of solving them. GOAL: To know the problems rural dwellers face in meeting their travel needs.	½-2 periods
33	DESCRIPTION: Students interview various groups who have difficulty using public transportation. GOAL: To be aware of why some people do not use public transportation.	2-3 periods plus out-of-class time
34 Spirit Master #6	DESCRIPTION: Students identify the ways in which public transportation meets and fails to meet the needs of physically and socioeconomically disadvantaged groups. GOAL: To know how transportation fails to meet the needs of special population groups.	½-1 period

Total Class Time: 5-10 periods.

ACTIVITY #31

Mini-unit Topic: Examining Groups with Travel Problems

Approximate Class Time: 2-4 periods, plus out-of-class time

Capsule Activity Description: Students research why public transportation service in many communities is inadequate.

Goal:

To be aware that transportation service in American communities is often inadequate.

Concepts Treated:

- There are several historical causes which explain why some U.S. communities lack adequate public transportation.
- Students need to understand these causes in order to evaluate effectively the extent to which public transportation can be provided in America's cities, suburbs, and rural communities.

ACTIVITY

In this activity, students investigate what historical factors have resulted in the development of inadequate public transportation in most communities. Students can then identify ways in which to overcome these obstacles in the future.

Students as a class or in small groups can conduct the research in a variety of ways, including interviews with public transportation and other city or town officials and with specialists (e.g., historians, political scientists) in the field of transportation or urban studies; visits to local historical societies and libraries; culling back files of local newpapers; and looking for articles listed in the *Readers' Guide to Periodical Literature* and the *New York Times Index.* Students may find it helpful to read several of the Bibliography items at the end of this Manual to get an overview of the problems and to develop a list of questions they would like their research to answer. Some possible explanations for the inadequacy of public transportation which students can research follow.

- Has public transportation in rural areas been relatively neglected because it cannot be expected to generate much revenue from passenger fares?

- To what extent is it difficult to provide adequate service because lack of ridership results in insufficient revenues?

- Are there ways in which the public interferes with improved service because of its lack of consideration of how it uses or abuses public transportation?

- Do political considerations play a large role in restricting the improvement or expansion of service?

- Has the dispersed settlement of our nation's suburbs made it difficult and expensive to service the needs of commuters?

- Has the government's major focus on highway construction been a reflection primarily of the apparent preference of most citizens for automobile travel?

- Has the limit in the money available made it impossible to fund both highways and public transportation adequately at the same time?

Evaluation Method:

Students act as "town spokespeople" explaining the inadequacies in the town's public transportation system to "visiting officials" from another state.

ACTIVITY #32

Mini-unit Topic: Examining Groups with Travel Problems

Approximate Class Time: ½-2 periods

Capsule Activity Description: Students discuss the problems of rural transportation and ways of solving them.

Goal:
To know the problems rural dwellers face in meeting their travel needs.

Concepts Treated:

- Rural dwellers are largely without public transportation service and therefore dependent on automobiles for most of their travel needs.
- Many rural dwellers do not own automobiles and therefore find some of their travel needs go unmet.
- Citizens need to consider what solutions exist that are are not exorbitantly expensive for meeting the travel needs of rural dwellers.
- Two partial solutions to the lack of public transportation in rural areas may be carpooling and other means of making more efficient use of the automobile.

ACTIVITY

Students in small groups or as a class begin this activity by identifying what the major transportation problems in rural communities are. Students who do not live in rural areas can identify some of these problems by using the map on Spirit Master #5 to determine how rural residents would be able to engage in the following trips *if they did not have access to a car:*

1. Seek medical care
2. Go to school
3. Go to the movies

4. Go bowling

5. Go shopping

6. Visit with friends and relatives

7. Go to a restaurant, diner, or bar

8. Visit friends and relatives in hospitals and nursing homes

9. Visit the library

10. Go to the post office

11. Talk with a government official

Students can then discuss how families with a single car might be able to make these trips. Students should also consider how carpooling might enable families without an automobile to make these trips, and how trip consolidation could reduce the need for cars.

Students from nonrural areas can then compare what they believe the problems of travel in rural areas are with what rural dwellers have indicated they are by reading the materials that follow this activity. Rural students can see if their personal travel problems are shared by other rural dwellers.

Finally, students identify possible solutions to the lack of convenient, inexpensive public transportation in rural areas. You can supplement the students' suggestions by duplicating the selection at the end of the activity taken from *Transportation and the Rural Community* and passing copies out to the class or by presenting the selection's major points to the class in the form of a lecture. Class can discuss each of the suggested solutions in terms of effectiveness and costs.

Evaluation Method:

Students choose two of the most critical transportation problems rural dwellers face, describe them, and develop solutions to them.

Variation and Supplementary Activity:

Students from nonrural areas can write to one or more residents of rural areas asking questions about transportation problems they may encounter and the actions they feel would solve these problems.

Rural Transportation*

The generally accepted public view is that rural America travels by automobile, but studies indicate as many as one person out of five in rural areas does not own a car and in impoverished areas the carless can run as high as two out of five. Lack of mobility also adversely affects the handicapped, young people who are not old enough to drive, and women in one-car families. The fact is that 52 percent of the nation's poor and nearly one half of the elderly live in nonurbanized areas of less than 50,000 population.

Public transportation in rural areas, whether for the general public or special groups, uses such unconventional vehicles as small vans, local taxis, and school buses. Instead of fixed routes the service may be demand responsive to a person's call in advance. Most systems in rural areas operate to serve special needs or special population groups.

Rural residents who lack personal transportation may have a great need for community and health services, but often rural hospitals and facilities such as the offices administering Social Security, the food stamp program, family counseling, and vocational help are located in urban centers and small towns long distances from many rural people. Such a transportation-disadvantaged person may person may pay $20 or more for a ride to a health or welfare office.

Consumer Views on Rural Transportation**

Consumers in urban as well as rural areas voiced strong concern about the lack of adequate transportation for people living in rural areas of the country, many of whom have neither access to public transportation nor, because of their low income, use of an automobile. This problem is particularly acute for the elderly, the sick, and the handicapped who have no means of getting to medical and other services.

This isolation caused by lack of transportation not only makes it difficult for residents to avail themselves of shopping, medical, and recreational services and facilities and to see their friends and relatives, it further compounds their already pressing economic problems by denying them essential job opportunities. There is a lack of industry in the immediate area caused, in part, by a lack of adequate rail service.

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*U.S. Department of Transportation News Release.

***The Voice of the Transportation Consumer,* A Report to the Secretary of Transportation on Nationwide Consumer Public Hearings Conducted by the Office of Consumer Affairs, 1971-74; Executive Summary, (National Technical Information Service), pages 44-45.

Consumers recognize that because of limited ridership and larger geographic areas to cover, the cost of public transportation in rural areas is unusually high and the system would undoubtedly be unprofitable, but they also feel that the need is still acute. Consequently, they advocate Federally funded public rural transportation systems, possibly coordinated between the Departments of Transportation (DOT) and Health, Education, and Welfare (HEW).

Additional suggestions ranged from using school buses when they are not carrying children, to use of nearby military buses when not otherwise being used, to the development of a government funded dial-a-bus system or other personalized service. One consumer even suggested permitting rural mail carriers to carry passengers.

Additionally, consumers see a need for intercity buses to include more rural communities on their routes, but this must be accompanied by some form of local public transit to permit the traveler to get from the rural town to his rural destination.

Those rural residents who do have automobiles have to put up with a generally poor road system. They feel they take second place to urban and suburban areas in allocation of highway funds, primarily because of political considerations. They want repairs made to county and city roads and rural roads widened to be more useful. As stated by a student at the University of Tennessee: "The Department of Transportation, in its concern for rural transportation, should look into the poor condition of many county roads. It should enforce strict requirements and regulations on state and county governments to provide safe roads where school buses and postal vehicles travel. Roads are narrow, have soft shoulders, are obscured by tree limbs, brush, rotten wooden bridges, etc. Such conditions could easily lead to a disaster where 38 or 40 childrens' lives may be at stake. Again, with the help of HEW or subsidies, this kind of program should be initiated wherever the above described conditions exist..."

Since many rural residents have low income, they are especially hurt by the rise in gasoline prices, which, in turn, makes public transportation necessary for even residents with automobiles.

Transportation and the Rural Community

Recommendations by transportation experts as described in *Report on the First Workshop on National Transportation Problems, May 30-31,* (U.S. Department of Transportation, Office of the Secretary, Office of University Research: Washington, D.C. 20590, 1974).

Workshop suggestions concerning other aspects of rural transportation focused on these topics: planning and marketing transportation services, demonstrations and how to learn from them, and ways in which institutional barriers might be reduced or removed. In these concerns of the workshop, as elsewhere in the discussion, there was an unresolved and little explored difference of opinion: whether change should be introduced as part of a national policy or strategy for rural transportation, or if local initiative and local decision making should be stressed.

Effective rural transportation planning will need to be totally different in scope and technique from what is characteristic for urban areas. Without concentrated population and economic activity to support massive volumes of goods and people, rural areas' transportation needs are harder to identify and meet. One reason is that some of the groups with the greatest transportation needs--those without ready access to private automobiles or in the most remote areas--are the least visible.

> *Salzman:* [For rural areas] you can't do a traditional operations research transportation model. You have to get a very "micro" level. It's "public" transportation but it sure isn't "mass."

> *Johnson:* The right first step is to develop real data on demand and need. This implies a new style of planning--not building a model with a fixed route, but letting routes and frequencies of services be determined by patterns of actual transportation behavior

Separate rural transportation services must not be designed to serve each individual subgroup in the population. The market needs to be aggregated by determining the total demand implied by many different kinds of transportation needs in the area and then setting up services flexible enough to accommodate these different kinds of transportation requirements. To some extent, if the service is reliable, comfortable, and not too expensive, people will adjust the timing and purposes of trips to fit the system and thus will in effect aggregate themselves. Johnson offered examples of the different kinds of transportation needs that were taken into account in planning one such rural service:

- Trips to obtain monthly certification for food stamps need to be staggered through the month by the dispensing agency or else be accomplished by mail. Otherwise those who have to establish their eligibility will overwhelm the office on renewal day and have to make another trip later when they can be accommodated.

- Health services imply different kinds of transportaton requirements for different age groups. Infants have an immunization program, with perhaps three trips in three months; school-age children have regular series for periodic examinations and preventive services; older people have varying treatment programs depending on the specific ailment.

- Shopping in larger towns on a weekly or less frequent basis is a longstanding custom for many rural area residents. If the transportation system does not conform to these shopping habits by taking people to and from the shopping area they are accustomed to, the service may not be used even if it costs little and runs at convenient times.

But though each subgroup in a rural population has its special transportation requirements, it is not cost-effective or particularly helpful to provide separate services for each kind of travel requirement. The workshop participants stressed the desirability of creating or maintaining services capable of meeting simultaneously a variety of transportation needs (e.g., work trips, shopping, public assistance, health care). One demonstration in Oregon (funded by the Urban Mass Transportation Administration) is testing the use of school buses for meeting a variety of rural transportation needs in addition to the movements of school children.

Having a service available to all comers is also important in order to avoid having the users stereotyped as an inferior group. For example, a rural bus used largely by people who must register for food stamps or obtain welfare services may be avoided by other potential riders who need the service just as much for shopping or health care appointments but whose pride makes them want to avoid being labeled as "welfare bus" riders. Therefore, what efforts are made to diversify the user group and what kinds of promotional techniques are used to build ridership can make a big difference in how many and what kinds of people become steady riders.

At present, because of tradition and regulatory restraints, there is a lot of underused transportation capacity (for both people and things) in rural areas. A large number of single-purpose vehicles--for mail delivery, newspaper delivery, package delivery, utilities service, equipment service, school transportation, library service, road patrol or repair--pass by most rural homes in the course of a single day. The workshop discussion suggested that this characteristic of rural transportation might be one place to look in seeking innovations that can make better use of existing transportation resources.

If rural transportation, either for people for goods movement, cannot be made self-supporting through the fares and freight charges, what should be done?

Operating subsidies recently allowed by several Federal transportation programs will be a necessary part of the effort for rural transportation improvement. A subsidy makes sense when greater costs would be incurred by the community or by other public programs if the subsidy were not helping to maintain a needed transportation service. The same principle applies to maintaining privately operated service, such as rail or truck lines that would otherwise be abandoned. These special measures are forms of subsidization. "Subsidy is not a four-letter word," as a participant pointed out; it is clear that some essential services cannot and should not be required to pay for themselves.

Currently, one mechanism for Federal subsidy of rural transportation on a limited scale is through "rural transportation demonstrations." This topic was addressed by Keven E. Heanue in his workshop presentation:

> The nation has 3.9 million miles of roads, 900,000 of which are eligible for some form of federal assistance; 3.1 million miles are outside urban areas. The annual Federal highway expenditure of $4.4 billion (out of $20 to $25 billion annual expenditures nationally for new highway construction and maintenance of the system) is through programs largely under the control of the states. The Federal efforts in highways and public transportation are becoming more closely related, as for example in the 1973 Highway Act, with funds under certain conditions being available either for highways or mass transit development. There is an even closer working relationship between (the Urban Mass Transit Administration) UMTA and (the Federal Highway Administration) FHWA, leading some to forecast that within three to five years there will be a single agency within the Federal government for ground transportation.
>
> Rural demonstration program provisions were an important feature of the 1973 Act. Emphasis will be on using transportation for improving access to employment, health care, social, and recreational services in rural areas. Features of this program:
>
> - The demonstrations are for areas including communities of 5000 persons or less.
>
> - Applicants may be public agencies, nonprofit organizations, public agencies that contract to private operators, or Indian tribes.
>
> - Some portion of the grant can be for operating subsidy but only if the service to be tried is a new one or an innovative addition to an existing system.
>
> - Evaluation criteria for the demonstration proposals will include potential applicability of the innovation elsewhere; the probability of success; the amount and kind of state and local commitment (financial and technical); the plausibility of the estimates of demand for the proposed service; benefits of the proposed service to the elderly, the handicapped, and other disadvantaged groups; the availability of the service to a variety of types of users; management capability; and suitability of proposed promotion techniques.

> While up to 100 percent of the support of such demonstrations can be Federal, preference would be likely to be given to proposals that include some combination of Federal and other support. The proposals will be reviewed by the department of transportation in the state concerned, the regional office of the U.S. Department of Transportation, an interagency Federal evaluation team, and the Federal Highway Administration. Perhaps ten to 20 demonstration grants will be awarded in Fiscal Year 1975.

Innovative Alternatives

Though new technology was deemphasized, even warned against, in the workshop, there were specific suggestions that came out of the discussion:

- More can be done in a combined freight-passenger railcar and its highway counterpart; rural areas of France and Western Canada have such service. Yet there is no appropriate vehicle here, nor had DOT ever undertaken research and development in this area.
- Contracting with private automobile owners for some kinds of community transportation services. These might be paid for with some type of scrip--"transportation stamps"--analogous to food stamps or coupons.
- Possible subsidizing of transportation by shopping centers, medical groups, or other organizations whose customers or clients are widely dispersed in a surrounding area.
- Providing a "transportation broker" (as a current project at the University of Tennessee) who can match travel needs with a variety of transportation services in rural areas.
- Use of rural mail carriers, school bus drivers, county agents, and others already traveling rural routes for information on transportation needs and potential demand.
- More extended use of mobile units to take services to people rather than bring people to services.
- Fixing of passenger service routes in rural areas only after a test period at no cost or minimal cost in which careful records are kept of the actual travel behavior of people in the area, rather than basing system planning on surveys of what people intend or believe their travel requirements would be if service were installed.

Some of those at the workshop argued for a national strategy for rural development as a way to guide the allocation of resources and improve the national transportation system. Others took the view that local areas and states should determine priorities and describe needs, with rural transportation treated like other matters of public policy, and that the Federal government should then "respond accordingly" with its participation in meeting that need. The "national policy" advocates stressed the importance of making coherent long-range decisions to maximize benefits. Those strong for local initiative put more value on decentralized decision making and community participation.

ACTIVITY #33

Mini-unit Topic: Examining Groups with Travel Problems

Approximate Class Time: 2-3 periods, plus out-of-class time

Capsule Activity Description. Students interview various groups who have difficulty using public transportation.

Goal:

To be aware of why some people do not use public transportation.

Concepts Treated:

- Many people have difficulty using public transportation because of physical or age handicaps.
- The public needs to consider whether public transportation should be designed to accommodate the needs of the transportation handicapped and, if so, how.

ACTIVITY

Students interview (1) the handicapped (these may be divided into subgroups: people in wheelchairs, persons using crutches or similar aids, blind people, deaf people); (2) the elderly; and (3) children regarding their ability to use public transportation. (If there is no public transportation in the community, students can ask their questions in terms of what problems these handicapped groups would *anticipate* having were public transportation available.)

Students make up an interview guide or poll (depending on whether this is to be a fairly lengthy interview or simply an opinion sampling). Poll questions might include the following:

1. Have you traveled by public transportation in the last month?

   Yes ( ) No ( )

2. If yes, how many times have you taken public transportation in the last month?

   1-5 ( ) 6-10 ( ) 11-20 ( ) More than 20 times ( )

3. If the answer to Question 1 is "No," what are the reasons for your not taking public transportation?

Difficulty getting to a stop ( )

Difficulty boarding vehicle ( )

Expense ( )

Difficulty of knowing where you are and getting off in time ( )

Attitude of vehicle operators ( )

Attitude of other passengers ( )

Other (specify) _______________ ( )

4. If you do use public transportation, would you like to use it more often?

Yes ( ) No ( )

5. If "Yes," what prevents or discourages you from using it more often? (See list of possible responses to Question 3 above.)

If students decide to do interviews--that is, go more into depth--an interview guide must be developed. This guide would be more open-ended than the poll questionnaire and have "lead" questions, such as the following:

1. Do you ever take public transportation?

2. Do you have any difficulties with public transportation? If so, what are they? Are there any things you like about the public transportation that you use?

3. Do you have any suggestions for improving public transportation so that you and people like you could use it more easily?

Students should test their questionnaire or interview guide before using it. One way to do this is to test it on one another. Major purposes of the test are to see whether any of the questions are unclear, elicit useless answers, or embarass the interviewee. Some training of students may be necessary to handle this poll tactfully. Students can precede the interviews with a visit to a local association for the handicapped for help in this regard.

Students then decide whom to poll or interview. Places to conduct interviews or polls include nursing home, hospital or rehabilitation center (for handicapped persons); for elderly persons: senior citizens centers, social security offices, parks, and residential communities that are restricted to the elderly; and schools (for children and young people).

Follow-up discussion should be held in which students compare the results of their polls or interviews. Students can also compare their findings with those voiced at a series of nationwide public hearings and presented at the end of this activity. Students can then in small groups or as a class debate whether public transportation should be built or renovated to accommodate the problems of the travel handicapped and why or why not.

Evaluation Method:

Students describe the reasons people with transportation handicaps often have difficulty using public transportation in letters to appropriate town transportation officials.

Variations and Supplementary Activities:

Invite several guests (particularly from the population suggested above) to class to discuss any problems they have experienced using public transportation.

Students can conduct a similar poll around issues involved in carpooling.

The Travel Needs of the Elderly and Handicapped*

Although the highest number of comments from the public hearings were on the general subject of balanced transportation, the most vocal ones on a particular subject came from those concerned about the transportation problems of the elderly and handicapped. Though a minority of consumers think the Federal government should not fund or regulate anything ever, transportation for the elderly and handicapped is one area where there was general agreement that subsidies, regulations, laws, research, and planning are greatly needed. The elderly and handicapped and representatives of organizations working with them turned out in numbers at most of the hearings and articulated their problems and needs repeatedly.

General

Consumers at the hearings believe there is a serious lack of available and accessible transportation for the elderly and the handicapped. They believe that transportation for this group of consumers should be considered a right, not a privilege, and that to deny this is not only discriminatory, but a denial of their civil rights.

The handicapped in particular repeated their demands at a number of hearings that all public transportation vehicles, terminals, and walkways be designed barrier free so that even those in wheelchairs can move freely from walkways to buses, terminals, subways and planes without assistance. They want their needs to be considered in planning all transportation systems and feel that designs that are architecturally barrier free will not only benefit the handicapped but will help the elderly and other transportation consumers as well. Many who testified clearly believe that the handicapped and elderly lack transportation opportunities because design features prevent use of existing transportation systems. The lower income that often accompanies elderly and handicapped people also prevents extensive use of most forms of available public transportation because they just can't afford it. In addition, the high cost of transportation hinders some handicapped people and older adults from taking available jobs. Transportation facilities with fewer barriers and door-to-door service, such as taxis and special buses, usually charge fares far beyond their means. Lack of transportation opportunities and the prohibitive costs isolate and trap the elderly and handicapped in their homes, deny them access to medical care and job opportunities, and make it difficult to attend church, go shopping, visit friends, or participate in recreational activities. Such confinement also sometimes contributes to psychological disorientation and to poor physical health.

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*From *The Voice of the Transportation Consumer: Executive Summary* (National Technical Information Service: Springfield, Virginia, 1975).

Many of the elderly and handicapped are dependent upon the kindness of their neighbors and friends because there is no other form of transportation available. They hesitate to ask except for urgent trips. Consumers strongly believe that transportation services for the elderly and handicapped are essential so that these people can be productive to society and have a good quality of life, where possible, as opposed to existing in nursing homes or dependent upon government welfare. Some consumers said at the hearings that the costs of providing transportation services for the elderly and handicapped will be more than offset by eliminating some of the need to provide welfare. Many can earn a living, contribute to society, and enjoy more of the pleasures of life if accessible and inexpensive transportation is made available.

Consumers feel that, despite all of the research that has been done on this subject, more is needed to determine the extent of the problem and specific needs and solutions for the various types of handicaps and infirmities. More facts and figures must be developed, and most importantly, input must be obtained from the elderly and handicapped themselves since they are in the best position to accurately reflect and advise on their specific needs. A number of people present at the hearings stated that DOT and other government agencies are not taking sufficient action to meet the transportation needs of these two groups of consumers with somewhat related needs. They strongly recommend government action to help the elderly and handicapped gain more mobility.

Special Needs

..... Responses to Question 26 of the questionnaire ... (which asks the special transportation needs of the elderly and handicapped in the respondents community) indicate that 53 percent of those responding cite more frequent public transportation services as the most pressing special need. The second category, in order of importance, shows that 47 percent of those responding feel that a discount on fares is important. Because many are retired or are unable to work, incomes are often too low to afford frequent use of public transportation facilities or any other form of transportation; consequently, the plea for reduced or free fares in order that they may not be trapped or isolated. Of those responding to Question 26, 38 percent cite the need for more education and information as to available services, and 35 percent want specially designed space on all public transportation systems for the nonambulatory in wheelchairs.

Health Facilities

Public testimony revealed that a strong need exists for low-cost transportation facilities for the elderly and handicapped people to get to and from health clinics in urban as well as rural areas. There is also a need for door-to-door transportation between an individual's home and health facilities for the handicapped and elderly who cannot use existing public transportation systems. This need exists because of their inability to walk to stops, to maneuver wheelchairs over curbs and steps, and to get in and out of buses, trolleys, subways, etc. This door-to-door transportation should be subsidized by the government, many consumers believe, because of the inability of a high percentage of the handicapped and elderly people to pay for this service.

Security and Safety

A major obstacle in the use of transportation systems by the elderly is their fear of being unable to cope adequately with the details of making a trip. This fear is somewhat related to (or the result of) such infirmities as impaired hearing, poor vision, and poor coordination. Another contributing factor is fear of being attacked or mugged at bus stops, which does happen to some. Consumers believe that bus terminals should have enclosed waiting rooms with security guards present and that subways and other mass transit facilities should be under increased police surveillance.

Bus Transportation

In the categories of transportation by modes, the most serious problems affecting the elderly and the handicapped are those related to bus transportation in urban or metropolitan areas. There are also problems for the elderly and handicapped who travel by bus from one city to another. Neither the buses nor terminals are accessible to the handicapped. Conventional bus design is inadequate for the elderly and the handicapped who are not well coordinated or fully ambulatory. The steps and overhead hand rails are usually too high. In addition, there is inadequate space for wheelchairs, floors are not always skid-free for those who use crutches, there is usually little space for bundles, and there is no guarantee of a seat. In public testimony, consumers stated that they want public transit systems to be architecturally barrier free. In response to Question 26, consumers recommend facilities which will make it easier to board and leave public transit vehicles, including hydraulic lifts if the floor of the vehicle entrance or a ramp cannot be adjusted to curb level. Some newer bus designs being demonstrated, and now in limited use, have such features. Many consumers, especially the elderly and handicapped, believe that all buses should be designed with the problems of the elderly and handicapped in mind and that funding for buses should be contingent upon this specification. In Philadelphia, consumers expressed concern over what they termed the lack of adherence to the Urban Mass Transit legislation of 1970 which required special consideration for the needs of the elderly and handicapped. Some requested that minibuses that can accommodate wheelchairs be provided in the interim period until public transportation systems can be made both available and accessible to the handicapped and elderly.

Consumers believe there is a great need for more door-to-door bus service (such as dial-a-bus) to accommodate the elderly and handicapped who cannot get to the main bus routes. At the very least, there should be a system of feeder minibuses in neighborhoods which will take the elderly to the main bus routes; perhaps the handicapped also if feeder and main buses are barrier free. In response to Question 26 of the questionnaire, a considerable number of people recommend use of special jitneys, dial-a-ride buses, or minibuses that are demand activated for the elderly and handicapped. In order to properly sustain the operation of these buses, many consumers believe that the Federal government should provide operating subsidies as well as capital grants. This view was expressed for bus transportation in general as well as for specially equipped buses and door-to-door small buses to accommodate the handicapped and elderly.

In addition to more flexibility in scheduling, consumers want more concentration of stops in those areas having large numbers of elderly residents. In several cities, there was a plea for more circuitous routes rather than all routes running into the center of the city. Consumers also believe that Federal funds should be provided for more bus shelters and that more wheelchairs should be available at bus terminals to accommodate the handicapped and the elderly who have difficulty walking. In addition, there should be elevators at accessible locations in terminals. Escalators frighten some elderly people who are not well coordinated and those in wheelchairs must have elevators in terminals with more than one floor if they are to move freely from one destination to another without assistance.

Consumers also asked at the public hearings that fares for senior citizens be lowered or even eliminated entirely during all hours of the day and not just during a limited period of time between day time commuter rush hours. As noted before, 47 percent of those responding to Question 26 cite a discount on fares for the elderly and handicapped as an important need.

Mass Transportation

There is clearly a need for all mass transportation, not just buses, to be more available and accessible to the elderly and handicapped. As noted previously, this view is supported by the responses to Question 26 of the questionnaire in which 53 percent of those responding feel that more public transportation is a special need of the elderly and handicapped, the single largest percentage in answer to that question. The 47 percent citing discount fares as a need applies to all forms of mass transportation.

Consumers believe there is a need for barrier-free feeder systems from residential neighborhoods to interface with all forms of mass transit systems including the rapid transit systems now being developed in some metropolitan areas. For example, feeder systems to permit the elderly and handicapped to reach rapid transit systems such as BART in San Francisco are needed. BART is designed barrier free but most feeder systems to BART are not. Consumers feel that most mass transportation terminals, including railroad stations, need redesigning to include elevators and other barrier-free facilities. Certainly the high steps and high hand holds on many transit vehicles and cars should be redesigned for use by the elderly, according to testimony at the hearings. Also curbs need to be designed with ramps so that the handicapped can move into terminals and get to vehicles and transit cars.

Consumers strongly believe that the elderly and handicapped should be considered in *all* mass transportation planning and that they should be represented on the agencies and committees that plan and make decisions regarding all mass transportation systems. This is the only way to assure that the true needs of the elderly and handicapped will be considered. BART is barrier free mainly because the handicapped were in on the planning. All facilities in the cars and terminals of this system are designed so that the handicapped in wheelchairs can move freely unaided.

Blind People

Some consumers at the consumer public hearings felt that blind people as a special category of the handicapped should be provided with reduced fares on airplanes and buses as they are on trains since their income is generally low. Blind consumers feel that more attention should be given to enforcement of the "white cane" law and that perhaps education is needed on provisions of the law. One person requested that bus and transit operators be required to call out stops for the benefit of those who are blind or have poor vision since it is impossible for them to see street signs and know where to embark. Support was expressed for use of the Braille system at strategic locations to provide guiding signs and travel information for blind people. Also, there was concern expressed regarding the transportation problems of color-blind people...

Special Transportation Systems and Vehicles

Most of the handicapped were strongly against special transportation systems and vehicles designed just for them in lieu of beginning now to develop barrier-free mass transportation systems. They want to be able to use the system used by everyone else. However, they do advocate special systems and vehicles as interim measures realizing that it will be years before all transportation vehicles, terminals, and walkways are barrier free. They also want barrier-free vehicles and systems to interface with rapid transit systems such as BART.

Support was expressed for most of the current innovative systems and vehicles now being used and demonstrated over the country including: vans equipped with lifts and space for wheelchairs, station wagon pickups for elderly, minibuses, dial-a-ride, and other demand-responsive systems. The elderly and handicapped particularly like some of the well designed, door-to-door, small buses and vans.

Some who spoke at the hearings expressed support for privately operated van companies or other companies that perform important transportation services for the elderly and handicapped receiving subsidies from the Urban Mass Transit Administration (UMTA). They also believe that the U.S. Department of Transportation (DOT) should finance more demonstration projects for transportation systems for the elderly and the handicapped. A few felt this problem has been studied and researched sufficiently and that enough is known to act and act now.

Government Action

Consumers generally believe that DOT and the Federal government have an obligation to improve transportation facilities and services for the elderly and the handicapped and that there should be cooperation between Federal and state agencies in this regard. Most believe that research and planning should be accelerated to remove travel barriers and that such research should be based, at least in part, upon input from the handicapped and elderly. In addition, there should be better coordination between such Federal agencies as DOT and HUD to insure that adequate transportation facilities are available to Federally funded housing. Consumers expressed the belief that DOT should cooperate more with vocational rehabilitation agencies and the Administration on Aging to meet the specific problems of the handicapped and elderly.

Some support was expressed for DOT to recommend a transportation subdivision of the President's Committee on Employment of the Handicapped and for DOT to have a goal of a sticker from this committee on all transportation modes in all parts of the country. Though consumers concede that there is still need for research, they think the real need is for action to improve transportation for the elderly and handicapped. As for funding, consumers believe that transportation for the elderly and handicapped should have high priority in the allocation of Federal subsidies.

Some handicapped consumers at the hearings asked that DOT sponsor legislation to permit the handicapped to deduct all transportation expenses, not just those that are employment related, from their income tax returns. Some believe that special government aid or reimbursement should be provided the disabled in order for them to meet the unusually high transportation expenses they incur. Handicapped consumers, particularly those in wheelchairs, think that because they pay taxes that go to build and support mass transit systems, which they are now generally unable to use, it is only fair for the government to help them meet their exorbitant transportation expenses. They also believe that special transportation services for them should be regulated, otherwise vendors will raise prices if legislation is passed providing for reimbursement of their transportation expenses. Many consumers believe that there is need for legislation that would make it mandatory that all public transportation be accessible and useable by the elderly and the handicapped.

Consumers voiced concern that inner-city minorities do not have adequate transportation to employment opportunities in the suburbs and that the need for better mass transit within the inner city is acute.

Consumers object to transit plans that are implemented without regard to their effect on minority neighborhoods and are concerned that transit authorities have exploited and ignored the needs of black communities. The transit development plan for St. Louis, some consumers in that area feel, blatantly discriminates against the black community. Similar concern was expressed in Atlanta.

To overcome some of the discriminatory practices, consumers think that DOT should have guidelines requiring representation of blacks on transit agencies funded by the Federal government. In addition, they feel that the Federal government should help black contractors, through training programs and subsidies, to obtain highway and other transportation contracts presently denied them because of their inability to be bonded for lack of sufficient capital and expertise. At the very least, minority contractors, they feel, should be guaranteed equal opportunity in securing transportation contracts. There was support for Federal government assurances, possibly by withholding highway trust funds, for minority inclusion in ownership and in decision-making positions in all transportation-related industries. In Greensboro, North Carolina, it was suggested that the Federal government give financial assistance to privately owned black transit companies, such as Safe Bus which has operated at a loss because of segregation practices in the area.

Consumers are also concerned that DOT demonstration projects are not held in the inner city. They also want public accommodation laws more strictly enforced and applied to non-Federal highways, because they feel that discrimination still exists in public accommodations.

Native Americans

Fort Yates Reservation leaders expressed concern about poor roads and road connections on or near the reservation. They want DOT highway funds to go directly to the reservation rather than to the state so that Indians will be assured of both contracts and job priorities in road building.

Elsewhere, consumers expressed concern about the lack of transportation for Indians and migrant laborers to enable them to take care of their medical, personal, and social needs. In Tucson, Arizona, there was a consumer complaint that the transit company does not include the Indian reservation in its bus route.

Spanish and Other Non-English-speaking Citizens

Some consumers voiced the opinion that all local transportation planning reports, studies, and related materials be printed in Spanish (Chinese was also suggested), so that all people can better understand and participate in transportation planning affecting their neighborhoods.

Mobility for the Disadvantaged*

Requirements of the Legislation

Section 16 of UMTA's legislation states that special efforts shall be made in the planning and design of mass transportation facilities and services so that they can be effectively used by the elderly and the handicapped. This section was amended in 1973 to allow 2 percent of UMTA's total obligations to be set aside exclusively for financing programs and activities to meet the special needs of these groups. As corollary to Section 16, the 1973 Federal-aid Highway Act requires the Secretary of Transportation to assure that transit projects financed under the highway program can be effectively used by elderly and handicapped persons.

The UMTA legislation now permits applications for grants from private nonprofit organizations to provide the required services where the efforts of a public transportation company are found to be unsuitable or insufficient. UMTA will be working with the states to carry out this provision.

Funds from UMTA's capital grant program can be used to provide specially equipped buses and bus shelters, to make rapid transit station improvements, to remove travel barriers, and to improve safety. Technical study funds are available for data collection, analysis of the needs of special user groups, and planning for special services. Research, development, and demonstration funds may be used to do research on the transportation needs of the disadvantaged and to increase the information and technology available for providing improved transportation facilities and services.

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*Taken from *Highway and Urban Mass Transportation* (September, 1974).

The TRANSBUS Program

A particularly challenging objective of the TRANSBUS program is the removal of physical travel barriers to the elderly and the handicapped. New design concepts will be tested to provide access to the bus system for an individual in a wheelchair, for example. The final version of each of the three prototype designs will feature a different approach to this design problem.

The Haddonfield, New Jersey, Dial-A-Ride

Both the scope and concept of the demand-activated transportation system is being demonstrated within an eight-square-mile area in Haddonfield, New Jersey, with door-to-door Dial-A-Ride. Twelve small buses, designed for maximum comfort, are radio dispatched in quick response to called-in requests for service. The Haddonfield community is now enjoying transportation that can go anywhere on any city street; has high security against crime; provides door-to-door service 24 hours a day, seven days a week; and supplements the inflexible rapid transit system in meeting both peak and off-peak requirements.

Although Dial-A-Ride has appealed to the public generally, elderly and handicapped people, housewives, and young people have found it particularly inviting, because it gives them a new mobility, decreasing their dependence on friends or the family car. One of the buses is specially fitted to accommodate wheelchair passengers and those with other handicaps that prevent them from using standard public transportation.

Service Development Demonstrations

UMTA's service development program is a demonstration program specifically concerned with the problems of the transportation disadvantaged. It is designed to develop and try out, in cooperation with local communities, innovative types of transportation service for persons with mobility constraints arising from age, economic status, or physical disability.

Projects range from special circulation systems in the inner cities of large metropolitan areas to services in small towns or suburban areas. Each demonstration results in a detailed final report for use by other communities interested in setting up similar systems. Although the demonstration program is young, significant results are already being achieved. Five examples of UMTA's service development demonstrations for the handicapped and elderly are described below.

The Valley Transit Demonstration Project. In the Lower Naugatuck Valley, Connecticut, six bright green and blue minibuses are proving to be indispensible to nondriving residents of four adjacent communities. The buses are part of the Valley Transit project, designed to develop a successful public transit operation by concentrating initially on the needs of health and social service agencies and other clients. Making the service completely accessible to elderly and handicapped persons was a major consideration in planning this project.

The unique system has the flexibility to provide three types of service: door-to-door by telephone request a day in advance; rent-a-bus reserved for exclusive group use; and regular fixed routes. The modern, carpeted buses contain the latest in safety and comfort features, including added support stanchions as well as a low front step and wide doorway for easy entry. One of the six vehicles has an electrohydraulic lift on the side, enabling persons in wheelchairs to enter easily.

The Valley Transit Demonstration Project is the first in the country to design and test a new concept in automated fare collection using credit cards. A passenger getting on or off the bus simply inserts the card into a special recorder. He then receives a monthly bill according to the type and amount of service received at the rates indicated in the fare structure. This computerized billing system also permits cost sharing between clients and agencies that have agreed to pay for a portion of their clients' trips.

The demand for dial-a-ride and rent-a-bus service has been so great that the Valley Transit District is taking action to more than double the size of its fleet. More than 20 health and social service agencies are using the service. System revenues are covering more than 70 percent of the operating costs.

A School Bus Demonstration in Klamath Falls, Oregon. Klamath Falls, Oregon, is a community of about 32,000, which had no public transportation and a high proportion of elderly. A vocal senior citizens group convinced UMTA and the Oregon State DOT that their city was the best place to conduct a pilot project testing the feasibility of using school buses during idle hours to provide the beginning of a community transportation system. In spite of long headways and the absence of service when the buses were transporting children to and from school, the response to the first limited service was overwhelming. Full service, developed during the summer months, further demonstrated the need for regular transit service. The community is deciding on the next step: conversion to regular transit vehicles or a school bus system supplemented by transit vehicles.

A Model Cities Demonstration. An UMTA demonstration grant to the Grand Rapids Transit Authority in Michigan has provided for a demand-responsive transportation system for the Model Cities neighborhood, a low-income area with a large percentage of autoless households. Five small buses operate from 6 a.m. to 1 a.m., transporting residents to senior citizen centers, daycare centers, health and social service agencies, places of employment, and other destinations. Passengers may go anywhere in the city so long as one end of the trip is in the model neighborhood. Transfers are available to regular city buses.

The regular fare is 50¢, but senior citizens pay 25¢ per trip, and children with their parents may ride free. A Model Neighborhood Advisory Council, composed of residents, insures that consumers have a voice in the operation and that it meets their needs.

TOTE in St. Petersburg, Florida. The TOTE logo is becoming a familiar sight on the streets of St. Petersburg, Florida. The acronym represents "Transportation of the Elderly," a demonstration assisted by an UMTA service development grant to determine the capability of an extensive door-to-door service to operate in harmony with a major fixed-route municipal transit system. The project area is ten square miles containing the central business district of St. Petersburg. The large majority of the area residents are older persons.

After registering with TOTE, handicapped persons and those over 60 years old may use several types of special service: a reservation system where a person calls 24 hours in advance and specifies the time he wishes to be picked up and returned; a subscription procedure through which a person can make a continuing arrangement to be picked up on the same day at the same time every week until he notifies TOTE to stop or change the service; a higher-priced same-day service available on a limited basis; and a rent-a-bus service for groups during the evening and on weekends. Drivers of the 12 van-sized vehicles being used in the operation have been specially trained to be sensitive to the particular needs of the elderly.

Transvan for Cranston's Elderly. The aged, the infirm, and the handicapped now have their own transit system in Cranston, Rhode Island, because of an UMTA demonstration grant. Three 19-passenger buses--one equipped to lift and carry four wheelchairs--provide door-to-door, demand-responsive service for the elderly and handicapped. Certain regular runs are made to medical and other commonly needed facilities, but customized trips are readily arranged by making a date by phone one day in advance. This successful service has now reached the point where there are more requests than can be scheduled in an eight-hour day with Transvan's three buses. In a year and a half, Cranston's unique system has grown to the point where it is serving over 800 elderly and handicapped citizens each week. Use of the system is on a subscription basis, with a three-month pass selling for $1.25, with both ensuring unlimited service.

ACTIVITY #34

Mini-unit Topic: Examining Groups with Travel Problems

Approximate Class Time: ½-1 period

Capsule Activity Description: Students identify the ways in which public transportation meets and fails to meet the needs of physically and socioeconomically disadvantaged groups.

Goal:

To know how transportation fails to meet the needs of special population groups.

Concepts Treated:

- Several million Americans have difficulty using public transportation because of socioeconomic handicaps.
- Several million Americans have difficulty using public transportation because of physical handicaps.
- The public needs to be aware of the travel handicaps many people have in order to decide whether the government should provide public transportation that these persons can use effectively.
- One partial solution to the lack of public transportation available to the transportation handicapped may be carpooling.

ACTIVITY

Students can conduct this activity with reference to the needs of special groups across the country (for example, the poor in general), with reference to special groups in their own community, or both. Students begin the activity by identifying people who are likely to have special transportation needs due to socioeconomic conditions, including the poor and minorities, and due to physical handicaps, such as the elderly, the blind, the deaf, and the crippled.

Using the chart provided on Spirit Master #6, students either in small groups or as a class place check marks in the boxes which represent a public transportation mode and features which are likely to represent problems for each group. Small groups can compare their results and resolve disagreements. Based on the results, students identify those modes of public transportation that are likely to be most accessible to each group. As follow-up, students identify what changes, if any, could be introduced into each mode of public transportation to make it more accessible to each group. Students should also consider whether and how carpooling might help provide increased transportation opportunities to the poor and the physically handicapped who cannot take advantage of public transportation as much as they would like.

Evaluation Method:

Students design an ideal public transportation system or vehicle and indicate how it meets the needs of all population groups with transportation handicaps.

Variations and Supplementary Activities:

Students can conduct research in their community to determine the extent to which its public transportation facilities meet the needs of each group in the community with a travel handicap.

Students can research or estimate the expense involved in making specific modifications in different public transportation systems to make them more accessible to the transportation handicapped. See the reading, "Mobility for the Disadvantaged," at the end of Activity 33.

Students can invite members of these specialized groups or officials and operators of the public transportation system to class to discuss the travel problems these groups experience.

Students can research the extent to which the needs of these groups are considered in the planning stages of new public transportation vehicles.

Students can discuss and research the extent to which the special needs of the transportation handicapped are not met (1) because of the expense, (2) because these groups do not constitute a powerful lobby, (3) because the nonhandicapped population does not care about the needs of these groups, and (4) because of difficulties in updating existing facilities and equipment.

Students can design public transportation vehicles, or systems that would provide maximum or adequate accessibility for one or more of these transportation-handicapped groups. See the reading, "Mobility for the Disadvantaged," at the end of Activity 33.

Younger students can role-play in class several of the problems the transportation handicapped face using public transportation.

Students can discuss or research (using interviews) the extent to which women have special problems using public transportation, in terms of facing dangers (theft, assault, verbal abuse, discrimination) men either do not face or face less often.

Students can research what actions the government is taking to improve the accessibility of public transportation for the handicapped. See, for example, the reading "Mobility for the Disadvantaged," at the end of Activity 33.

Students can compare their community's public transportation systems with those of another community in terms of providing accessibility to the transportation handicapped.

MINI-UNIT 8

LEARNING ABOUT THE HISTORY OF PUBLIC TRANSPORTATION

This mini-unit involves students in researching public transportation systems in other countries and earlier historical periods. Such comparative studies can prove entertaining in and of themselves, while at the same time they have practical value in allowing students to compare their own public transportation systems with those of other lands and times. Such contrasts can be instrumental in identifying positive features in our own public transportation systems which we should retain, while pointing out areas where improvement may be needed. The example of other countries and eras may help suggest how we can achieve our long-term goal of attaining more balance in the use of transportation modes.

The study of transportation systems other than our own can also indicate a great deal about how different societies--and, by comparison, our own--feel about meeting the travel needs of the public and how, as a result, different cultures go about the business of providing this major public service in very different ways. Such an examination may also lead to useful tips on how to make more efficient use of the automobile.

Studying the history of public transportation in America sheds light on the relationship between public and private transportation and on the question of which, if either, should receive priority and why.

This mini-unit also helps students to consider the safety record of public transportation by involving them in researching transit "disasters" of the past. Such research can help students to become aware of the reasons for current public transportation safety features and of the potential need for additional safeguards.

Additional key concepts this unit addresses include the following:

- Understanding the history of public transportation in America helps to create understanding of the advantages and disadvantages of promoting increased use of public transportation today.

- Learning about the history of public transportation in America helps promote understanding of the relationship between public and private transportation in contemporary society.
- Compared with private transportation, public transportation has had a good record for safety.

MINI-UNIT 8 LESSON PLAN

Learning about the history of public transportation

Activity #	*Activities*	*Class Time*
35	DESCRIPTION: Using library resources, students, singly or in groups, conduct research on public transportation in the United States during the last 150 years. GOAL: To be aware of the role public transportation has played in America's social history.	2-3 periods plus out-of-class time
36	DESCRIPTION: From the library and other sources, students collect information on various public transportation disasters. GOAL: To be aware of the general safety conditions of public transportation in the past and present.	1-2 periods plus out-of-class time
37	DESCRIPTION: Small groups of students research the past and present condition of public transportation in cities throughout the world. GOAL: To be familiar with the public transportation systems in the cities of other nations.	1-3 periods plus out-of-class time

Total Class Time: 4-8 periods

ACTIVITY #35

Mini-unit Topic: Learning the History of Public Transportation

Approximate Class Time: 2-3 periods plus out-of-class time

Capsule Activity Description: Using library resources, students, singly or in groups, conduct research on public transportation in the United States during the last 150 years.

Goal:

To be aware of the role public transportation has played in America's social history.

Concepts Treated:

- Public transportation has been influenced by and in turn has affected the course of social history in America.
- Understanding the history of public transportation in America helps to create understanding of the advantages and disadvantages of promoting increased use of public transportation today.
- Learning about the history of public transportation in America helps promote understanding of the relationship between public and private transportation in contemporary society.

ACTIVITY

Students research the days when public transportation (within cities) began in the United States and what the initial mode was in different communities. Then have them find out when trains began to be used for intracity transportation and when they began to be electrified. (Steam trains used to run on the elevated structures in New York.) Which cities had public transportation systems? Which cities had rapid transit systems? Why did these cities and not others have them? (A brief chronology of public transportation history may be found at the end of the activity.)

In terms of miles in use, passenger miles, and passengers carried, what was the high point of public transportation in the U.S.? In terms of revenues, what was the high point? When did the decline in use begin? Is there a renewed increase in use now?

Students should focus their research not only on landmarks in the history of public transportation but also on the effects public transportation has had on people's everyday lives in America in terms of employment, recreation, social life, and population movement.

To do this research, students will need to use encyclopedias, old newspapers, card catalogs in libraries for appropriate books, and any information that may be available from rapid transit or bus systems.

Evaluation Method:

Students write a brief essay describing the rise, decline and recent resurgence of public transportation in America.

Variation and Supplementary Activity:

Have the group that is doing the research compile a list of records that involve public transportation. Students can try to find out the answers to some of the following questions:

Which is the oldest system?

Which is the newest system?

Which has the largest number of miles?

Which has the least number of miles?

Which system reaches the highest point?

Which system has the deepest tunnel?

Which system has the fastest trains?

Which system has the longest trains?

Which system carries the most passengers per day?

Which system runs the most buses per day?

Which runs the most trains per day?

Which has the cheapest fare?

Which has the highest fare?

Which system is most profitable?

Which is deepest in debt?

Which system has the most employees?

Which as the fewest employees?

Which system has the best safety record? (See the following activity for further discussion of this issue.)

There are probably not precise answers to several of these questions. Students should try to get the best answer they can find, within the limits of time and resources. For example, an acceptable (although no longer correct) answer would be: "Based on my research, the system in the U.S. that has the cheapest fare in 1977 is New York City, where the fare on the Staten Island Ferry is 5¢.

A brief chronology of public transportation history follows:

- Use of the omnibus, a closed vehicle carrying between ten and twenty passengers drawn by teams of two and three horses (1830s).
- Use of omnibuses on tracks with horses or cables providing the power (1950s).
- Heyday of the electric streetcar system (1890s).
- Introduction of subways (1890s).
- Effective mass use of motorized buses (1900s).
- Creation of the Model T Ford (1908).
- Decline in transit travel (leveling of auto travel)(1930s).
- Revival in transit travel and decline in auto travel (1940s--due to gasoline rationing).
- Decline in transit travel (1950s- ?). From 1946 to 1966, riders of mass transit declined from 23 billion a year to 8 billion.
- Improvement in public transportation facilities to meet new transportation needs (1970s).
- Revival of the streetcar or a "light rail vehicle" (1970s).

ACTIVITY #36

Mini-unit Topic: Learning the History of Public Transportation

Approximate Class Time: 1-2 periods plus out-of-class time

Capsule Activity Description: From the library and other sources, students collect information on various public transportation disasters.

Goal:

To be aware of the general safety conditions of public transportation in the past and present.

Concepts Treated:

- Compared with private transportation, public transportation has had a good record for safety.
- Learning about public transportation disasters can help create an understanding of the safety precautions that have already been taken and of those that still need to be taken to minimize any safety hazards from traveling by public transportation.

ACTIVITY

Begin by assigning different modes of public transportation to different groups of students: one group should research commuter trains, another subways, a third buses, a fourth ferries.

Have the students first research what happened--collision, derailment, head-on crash, etc. Determine how many people were injured or killed. Then investigate the causes of the accident: was it human error (e.g., ignoring a red light or stop sign)? Was it mechanical failure (e.g., brakes failed, steering mechanism failed)? Was the accident due to the age of the vehicle? Was it due to faulty maintenance or was there a built-in flaw in the design? Were there any safety features that failed to work? Were there any safety features that ameliorated the results of the crash? Did passengers know how to use them (emergency exits, emergency brakes, and the like)? Did the crew help the passengers? What about the emergency services of the community where the accident happened? Were they sufficient to cope with the accident? Was there any change in procedures after the accident? Did the accident result in any legislation to change procedures?

Students conclude the activity by: (1) assessing the potential for similar accidents to occur today on public transportation vehicles and (2) comparing public transportation disasters with intercity bus, airplane, and automobile disasters in terms of frequency and severity.

Evaluation Method:

Students write a brief essay comparing the safety record of public transportation vehicles in the past with that of today, explaining any differences they identify.

ACTIVITY #37

Mini-unit Topic: Learning the History of Public Transportation

Approximate Class Time: 1-3 periods plus out-of-class time

Capsule Activity Description: Small groups of students research the past and present condition of public transportation in cities throughout the world.

Goal:

To be familiar with the public transportation systems in the cities of other nations.

Concepts Treated:

- Public transportation is a universal phenomenon throughout the world, but its funding, use, and other features vary widely, reflecting local cultural and economic conditions.
- Much can be learned about the nature of our own public transportation systems by comparing them with systems in other countries.

ACTIVITY

Divide the class into groups of three students apiece, each of which chooses a major world city to study. They research the history of transportation in that city, with particular attention to the development of present and planned public transportation systems. Because one important aspect of the activity is how public transportation is an integral part of an overall transportation system, which usually includes alternative modes of travel, the research and later discussion include consideration of nonpublic transportation systems. However, the emphasis is on understanding public transportation systems.

After completing the research, the class compares several aspects of the cities' transportation systems and their histories. These aspects include

1. Physical attributes of the city, particularly those influencing transportation modes (e.g., Amsterdam's and Venice's waterways, San Francisco's and Rome's hills)

2. The major modes of transportation, public and nonpublic, used throughout the history of the city

3. The composition (class, particularly, and sex, age, and economic role) of the populations that used these modes

4. The size and density of the city at points in its history when there were major changes in transportation modes (for example, construction of a subway)

5. The city's role in the commerce of the surrounding area and its major industries

6. The development (and decline?) of its public transportation systems: individuals who advocated, opposed, and designed, or influenced the development of public transportation (were they representatives of special interest groups or of the population in general?); the political factors in public transportation systems, particularly the issue of subsidization versus self-sufficiency for each system; the influence of private enterprise and the profit motive; the influence of changes in technology; and the changes in economic and social situations and in living patterns that (1) influenced the development of the systems and (2) were engendered by the implementation of the systems

7. For each transportation system, and particularly those in present use, its extent; capacity; level of useage; speed; reliability; safety; advantages, both to the city as a whole, and to the people who use it; disadvantages, as above; conveniences and inconveniences; cost; financing (again, the issue of subsidization--note "hidden" subsidies, like road maintenance for automobiles); and impact on the environment: air, water, and noise pollution and appearance.

Comparing all these aspects of the systems in the several cities, the class draws conclusions about how the nature of a society influences its institutions, and vice versa. Students can also make predictions about the future of public transportation in some of the cities, based on the experience of other cities.

During the final discussion, each point is discussed in turn, with each group reporting on its city. A student or you record the main facts (size, mode, age, cost, speed, usage, etc.) in a large matrix on the blackboard or a flip chart.

Evaluation Method:

Students write short sketches of the public transportation systems in other countries identifying features they like and dislike.

Variations and Supplementary Activities:

The choice of cities can be made to fit in with other aspects of the curriculum; for a study of American history, the cities studied could be confined to the United States. Alternatively, half of the cities could be foreign, allowing a comparison.

If the class is located in or near a city, other cities can be chosen for purposes of comparison. If a public transportation system is an issue in the local community, the whole activity can be oriented toward solving the problem. City officials and planners can be invited to hear the final discussion, or a report can be developed to present to the local government.

Again, if the topic is relevant to the local situation, then this activity can be a part of a larger class project to design a new public transportation system for its city. In that case, students can begin with an ideal design, perhaps helped by a poll of local residents. Then, the activity can be used to determine some of the pitfalls to be avoided and some ideas that might be used. Following this, current costs must be determined, after which a final design can be developed, with a projection of ultimate costs. The class should be encouraged to estimate and guess at figures that are unavailable.

The area of study can be limited in several ways. Students can study only existing systems or only specific issues. This will allow them to do some of their research by mail, by sending information requests to the information or public relations offices of the transportation systems under consideration.

There are books and articles on the relationship of transportation and technology to society. (See the Bibliography at the end of this Manual.) Students can do research on these theories after the final discussions of their cities. Then, they can list aspects of their findings that support the various theories, and those which oppose them.

The activity can be used as a starting point for a unit on free enterprise in the United States. Noting that this country may be the only modern industrial nation that normally expects its public transportation systems to be self-supporting, the class can research and discuss both the origin of this view and the effects it has had on the extent and quality of public transportation in the United States.

One of the points that will come out of the original activity is the influence of a city's geography and extent on the choice of current transportation systems. For instance, a city with a good automobile transportation system or a small radius may choose to use those roadways for buses, while an older city with clogged streets and a large area might choose to construct a subway. Starting from this premise, the students can discuss the development of a transportation system for a totally new city. They can also discuss what kinds of provisions they would make for future growth of the transportation system. To make this alternative more extensive, the individual groups can be asked to redesign the city they studied, with total power to move and destroy existing structures and to construct new ones.

Students can research public transportation systems which have become famous (or infamous) in various cities around the world, such as Japan, where, on an average day, 13 million persons ride on commuter trains at an annual deficit of $2 billion, with extreme crowding conditions at rush hours; the Moscow subway system, with its stations built from marble and windows with stained glass, the Paris Metro and London Tube with their far-flung and numerous lines; and the San Francisco Bay Area Rapid Transit System (BART), with its automated ticket windows and speeds of up to 80 miles per hour.

Students can research the latest innovations and future plans for public transportation vehicles. The following discussion of the "light rail vehicle" illustrates the latest technology in the field of public transportation.

The Light Rail Vehicle*

In 1929, the Electric Railway President's Conference Committee (PCC) initiated a program aimed at developing a modern, standardized design for vehicles used on street railway systems in many American cities. Within six years, the first PCC cars were being manufactured by the St. Louis Car Company. With their streamlined body design, sophisticated control and power transmission, and improved ride with less noise, the new cars marked a significant improvement over the types of light rail vehicle then in use.

The PCC cars were intended for use in streets--both in traffic and on exclusive rights-of-way--and in subways. For operation in these mixed traffic modes, the cars were designed with a low floor level and with overhead pantographs, or trolley poles, for electric power reception. The low floor level permitted loading from the street. Overhead power reception eliminated the need for thrid rails, which could not be used in street operation.

By 1951, the last year in which PCC cars were manufactured, there were 4920 cars of this type still in use throughout the United States. Today, approximately 1800 PCC cars remain in service in cities such as Boston, Philadelphia, Pittsburgh, Newark, and Cleveland.

Over the years, the PCC car proved to be a reliable and efficient vehicle; as was inevitable, however, those currently in use (the youngest are 25 years old) are now physically and economically obsolete and, in many cases, spare parts are no longer available. As a result, transit authorities looking to upgrade their light rail facilities have been turning their attention to Western Europe, where many cities have enlarged and improved their light railways using modern vehicles.

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*Most of this information is taken from *Notes* (Parsons, Brinkerhoff, Quade, and Douglas: New York, Spring 1975).

In 1970, the Municipal Railway of San Francisco (Muni) decided to replace their PCC cars with modern light rail vehicles similar to those used abroad. The most outstanding feature of these cars was the articulation joint which would allow cars a 50 percent increase over PCC cars in length and capacity to negotiate the curves and hills of Muni's routes.

Meanwhile, some 3000 miles from San Francisco, the Massachusetts Bay Transportation Authority was confronted with a situation identical to Muni's--the need to replace a fleet of aging PCC cars with modern cars capable of serving within the operational constraints of existing routes. Since a principal source of funds for the new cars of both Muni and the MBTA was to be the Urban Mass Transportation Administration of the U.S. Department of Transportation (UMTA), UMTA suggested that Muni and the MBTA join forces. The MBTA applied for, and received, a grant under the UMTA's Research, Development, and Demonstration Program, and with the cooperation of Muni, set out to develop a nationally applicable specification for light rail vehicles.

Newark, Philadelphia, Pittsburgh, Cleveland, and El Paso were visited to explain the UMTA-sponsored project and to observe local operations in detail. Data on the needs and resources of the operators in these cities were applied toward the development of the standard vehicle specifications. Once the draft specifications were completed, they were reviewed to ensure that the vehicle would function satisfactorily on the routes of all light rail transit authorities.

The final product of this coordinated effort was a specification for a car which would operate in mixed traffic or on a dedicated right-of-way. Power reception will be by overhead catenary. Because in many cases the cars will be operated at street level, they will have a low floor level for loading from the street; in cases such as Muni's however, where cars will sometimes be used with underground facilities, the cars will be equipped with specially designed, automatic, high-low steps to acommodate both street and platform operation. The articulated joint in the center of the new light rail cars will allow for a rotation of 20 degrees in both directions horizontally and two degrees in both directions vertically. The capacity of a system employing the new light rail vehicles is virtually unlimited. They can be operated in multiple-car units and are capable of fully automatic operation.

Muni and the MBTA made first use of the standard specification in a joint advertisement, in November 1972, for bids on the manufacture of 230, 71-foot, six-axle, articulated cars.

The success of this cooperative venture can be judged in many ways. Both Muni and the MBTA soon will have modern light rail systems offering patrons a maximum of comfort, safety, and convenience. Future light rail transit in this country undoubtedly has received a boost and, judging from the interest shown in the joint MBTA-Muni effort, many American cities can be expected to follow the lead of Boston and San Francisco.

MINI-UNIT 9

RESEARCH PROJECTS ON PUBLIC TRANSPORTATION

This final mini-unit consists of eight research activities. Individual students can pursue those activities that interest them, or the class can be divided into small groups with each group pursuing a different research activity. Finally, the activities can also be used as extra-credit assignments or as independent study exercises for students who wish to learn more about public transportation on their own.

In general, the activities focus on the advantages and disadvantages of using public transportation. They also involve research into the difficulties involved in improving the public transportation service, citizen participation in public transportation development, and public transportation planning in general.

A critical issue that two of the research activities focus on (Activities 39 and 40) is an examination of the political and administrative processes by which transportation decisions are made by largely autonomous local transit authorities and by the Federal and state governments. Whether and how citizens can participate in the decisions of these powerful groups needs to be addressed if the public is to have an impact in this major area of public policy. Furthermore, as Activity 44 stresses, public transportation authorities may not be responsive to the needs of the public unless citizens participate in the decision-making process of these agencies. But, as noted in Activity 40, although there are often ways in which the public can participate effeceffectively in the decision-making process of public transportation authorities, many constraints make it difficult to improve public transportation even with complete citizen participation in transportation planning efforts.

All but one of the research activities are also oriented toward public transportation needs in the students' own communities. Senior high school students will develop a better appreciation for the issues related to public transportation if they study them in the concrete and relevant context of their own communities than if they investigate them in the abstract or with reference to other communities.

An earlier activity (Activity 11) treated the issue of carpooling as a form of public transportation. Several of the research activities in this unit either address issues related to carpooling or can be easily adapted to do so by substituting the word "carpooling" for "public transportation." For example, Activity 41 on polling the public on its positive experiences with and complaints against public transportation can be conducted in terms of people's experiences with carpooling or in terms of what they anticipate their experiences would be if they participated in carpools.

Finally, two other major concepts treated in the research activities:

- Certain sacrifices may be necessary on the part of some citizens in order to improve public transportation.
- The public must decide whether it wants to make the necessary sacrifices to ensure adequate public transportation service.

By engaging in these research activities, either independently or in small groups, students will be able to share what they learn about these major public transportation issues and pool their combined learning into a comprehensive understanding of the nature of public transportation in America.

MINI-UNIT 9 LESSON PLAN

Research projects on public transportation

Activity #	*Activities*	*Class Time*
38	DESCRIPTION: Students plan a public transportation system for their community. GOAL: To be aware of the need for public transportation and the uses to which it can be put.	3-5 periods
39	DESCRIPTION: Students plan the construction of a new or expanded public transportation facility or system, weighing its environmental effects. GOAL: To be aware of the beneficial and harmful effects public transportation can have on the environment.	1-4 periods
40	DESCRIPTION: Students interview public transportation system employees and administrators to learn what constraints may make it difficult to improve service. GOAL: To be aware of the problems involved in improving public transportation service.	1-2 periods plus out-of-class time
41 Spirit Master #7	DESCRIPTION: Students poll the public on its positive experiences with and complaints against public transportation. GOAL: To be aware of the advantages and disadvantages of using public transportation.	1½-3 periods plus out-of-class time

MINI-UNIT 9 LESSON PLAN (CONTD.)

Research projects on public transportation

Activity #	*Activities*	*Class Time*
42 Spirit Masters #8 and #9	DESCRIPTION: Students poll friends, neighbors, and strangers to learn what public transportation modes and improvements the community needs. GOAL: To be aware of the need for public transportation services in one's local community.	2-4 periods plus out-of-class time
43	DESCRIPTION: Students develop a program to introduce the young, elderly, handicapped, and nonusers in their community to public transportation. GOAL: To be able to promote public transportation among nonusers.	1½-2 periods plus out-of-class time
44	DESCRIPTION: Students research the structure, powers, and decision-making process of public transportation authorities. GOAL: To know how public transportation authorities make their decisions.	1-2 periods plus-out-of-class time
45 Spirit Master #10	DESCRIPTION: Students research methods of citizen participation designed to promote public transportation. GOAL: To know what constraints make it difficult to improve public transportation and what methods are available for overcoming them.	1½-3 periods plus out-of-class time

MINI-UNIT 9 LESSON PLAN (CONTD.)

Research projects on public transportation

Activity #	*Activities*	*Class Time*
46	DESCRIPTION: Students discuss improving public transportation by regulating the commuting behavior of the public. GOAL: To be aware of how changing the commuter behavior of the public may reduce congestion on public transportation vehicles during rush hour.	1 period

Total Class
Time: 13½-26
periods.

ACTIVITY #38

Mini-unit Topic: Research Projects

Approximate Class Time: 3-5 periods

Capsule Activity Description: Students plan a public transportation system for their community.

Goal:

To be aware of the need for public transportation and the uses to which it can be put.

Concepts Treated:

- Automobile traffic patterns and population density must be considered in determining the need for public transportation.
- Different public transportation systems have different advantages and drawbacks.

ACTIVITY

Divide your class into small groups of three or four students. Provide each group with a map of your city or town. The students, using the map provided, lay out a public transportation system (e.g., bus, light rail) in their community. It is best to keep the systems simple at first and use only one mode of transportation.

Discuss with the class some or all of the following points necessary for the planning of a public transportation system. The items may be outlined on the chalkboard and left up the students to deal with and discuss within their groups, or the class may spend time together going over the various points in detail. Use your discretion, based on your students' ability level, to decide which points you would like your students to consider while planning their systems.

When planning a public transportation system consider

- Target service areas: areas having high population densities, high concentrations of jobs and shopping activities, or other attractions, such as hospitals and recreation facilities (i.e., parks, sports stadiums/arenas, swimming areas)

- Areas of high and low traffic density and the subsequent effects of these on the flow of public transportation

- Areas in the community where public transportation would not be necessary or feasible

- Criteria for determining which system is more suitable for the community: available funds, construction costs, need, and environmental effects (see the following activity)

When students are familiar with the needs and problems of their community, they lay out their systems according to a set number of stops and route miles. You may wish to establish these criteria yourself according to the nature of your community and the type of map your students are using. For example, 60 stops along ten miles of route for a community with a population of ____ and covering an area of ____ miles. The groups may not exceed the criteria you set forth.

Routes are drawn on the maps in different colors and all stops are clearly indicated with a design of the group's choosing. All possible transfer points are marked in a similar fashion. The systems are to be as efficient as possible and reflect the community's needs.

When the systems are mapped out, each group of students presents its public transportation system to the class, defending its system and the reasons for route and stop placement. Systems are compared and discussed. Three or four of the best systems are chosen for further discussion and refinement, and the class adopts one plan for construction.

If your community already has a public ground transportation system, group plans can be compared to the system in existence and all existing and proposed systems evaluated in light of the community's present needs.

Evaluation Method:

Students select a public transportation system in their own community and evaluate whether it was properly planned and how, or whether it was not properly planned and how it should have been planned.

Variations and Supplementary Activities:

This activity can also be conducted in terms of designing a carpooling system to complement or substitute for a public transportation system. It may be especially helpful to use carpooling as the activity's focus in communities where no public transportation is available.

Each group works with a *different* number of stops and allowable route miles and the resulting systems of varying dimensions can be compared according to efficiency, convenience, and cost.

System plans are pasted onto cardboard and cut into pieces for jigsaw puzzles.

A transportation planner comes to class to further discuss how a transportation system is developed and to evaluate group plans.

For more advanced students develop a system having more than one mode of transportation.

ACTIVITY #39

Mini-unit Topic: Research Projects

Approximate Class Time: 1-4 periods

Capsule Activity Description: Students plan the construction of a new or expanded public transportation facility or system, weighing its environmental effects.

Goal:

To be aware of the beneficial and harmful effects public transportation can have on the environment.

Concepts Treated:

- Public transportation can have positive and negative effects on the environment.
- Citizens need to evaluate the effects of public transportation on the environment in order to decide what public transportation services to advocate.

ACTIVITY

Prior to planning their public transportation service, students discuss the ways in which transportation can affect the environment both beneficially and harmfully in terms of:

Pollution: Air, noise, and water. Also included in pollution is visual unsightliness (litter, ugly architecture, billboards, etc.). Do public transportation vehicles increase pollution, decrease it by enabling travelers to use less polluting forms of travel, or both at the same time?

Land consumption: Do transportation facilities (rails, bus stop shelters, etc.) take up land that might be put to other useful purposes, such as parks, roads, or housing?

People displacement: Do new facilities (rails, for example) require relocation of home owners, businesses, farms, and public buildings?

Population shifts: Does public transportation enable or encourage people to move out of cities into suburbs or vice versa? Do transit stations encourage high density development around them?

Accessibility to the natural environment: Do transportation services enable people to visit parks, see scenery, go fishing or boating, etc.?

Energy use: Does public transportation help to conserve scarce energy resources? (See Activity 12 for chart on energy usage.)

Accessibility to work and shopping areas: Does public transportation expand the possibilities for work, particularly for low-income people?

After identifying these aspects of transportation's effects on the environment, students write responses to the following scenario (which you can adapt to fit the peculiarities of your students' own community):

> You are the city (county, etc.) commissioner for environmental protection. You have been asked by the mayor (county commissioner, etc.) to participate in a task force on the planning of a new commuter train system (or bus system, subway station, ferry station, etc.) in the city of . . . . The mayor wants to know *where* to build the tracks and stations so that they will damage the environment as *little* as possible by avoiding pollution, not forcing people and businesses to move, not using up land needed for other purposes, and not stimulating people to move out of the city. With these concerns in mind, *where will you build it?*

Break the class into small groups and provide each student with a map of the community, with a map of some other community, or with a map of a fictitious community. Along with the map, groups are given written instructions to:

1. Compare each other's papers
2. Concretely plan the construction and route of the train line and stations, considering such environmental issues as where to build them so as to minimize disruption of existing buildings, historic sites, parks, natural resources, and other community resources; automobile or other public transportation problems that may result from this new facility (e.g., need for special parking places?); noise pollution (air, too, if facility will be a bus line); and reducing automobile traffic in the community (and perhaps bus travel, too)
3. Decide what citizen groups, if any, to involve in the planning of the system.

After deciding where to build their commuter line (or other facility) groups keep a written record of the reasons for their decisions and indicate their route and stations on their maps. Each group then describes its system to the class and justifies the route in terms of its effects on the environment. Class compares groups' routes and stops and explanations for them, seeking to resolve differences among the different construction plans.

Evaluation Method:

Students invite an environmental expert or appropriate town official to class to evaluate their plans. Students defend their plans against any criticisms or modify their plans if needed.

Variations and Supplementary Materials:

Students can discuss whether the proposed commuter line or other public transportation expansion is desirable not only from an environmental standpoint but from a social and economic perspective.

Different groups of students can discuss the environmental effects of different types of public transportation improvements or expansions in their community; one group can discuss subway expansion, another a new bus line, a third a ferry system, and a fourth a commuter train line.

Different groups can also discuss what the environmental effects of the same public transportation improvement or expansion might be on different types of communities--inner city, urban, suburban, small town, and rural.

Students can interview citizens on where *they* would like to see a proposed or hypothetical public transportation system expansion take place and what the reasons for their choices are.

Students can interview local transportation officials about the extent to which they consider environmental issues when planning public transportation improvements or additions.

Students can research the environmental impact statement process as it relates to the construction of transportation systems. The environment impact statement process is spelled out in the National Environmental Policy Act of 1969.

Students can evaluate an existing public transportation system in their community in terms of its beneficial and harmful environmental effects.

Students can discuss how making more efficient use of the automobile (for example, through carpooling and trip consolidation) can also help reduce transportation's harmful effects on the environment.

ACTIVITY #40

Mini-unit Topic: Research Projects

Approximate Class Time: 1-2 periods, plus out-of-class time

Capsule Activity Description: Students interview public transportation system employees and administrators to learn what constraints may make it difficult to improve service.

Goal:

To be aware of the problems involved in improving public transportation service.

Concepts Treated:

- Many constraints make it difficult to improve public transportation.
- A major constraint to improving public transportation lies in funding problems.
- Many of these constraints can be overcome, whereas others may be insuperable.

ACTIVITY

Students break into small groups, and each group investigates the constraints operating on a different public transportation system--bus, commuter train, light rail subway, ferry, and taxi.* (In communities where there are only one or two modes, the activity can be conducted by the entire class. In communities having no public transportation, students can interview transportation or other officials on the problems of setting up carpools.)

Each group identifies people within its system to interview, including operators of vehicles, administrators of the system, and regulators of the safety and finances of the system (such as state and local department of transportation, health and safety). Each group develops a set of questions for the people it plans to interview. Samples questions which students can consider asking follow.

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*Given the mature level of this activity, you may want to conduct it only with upper-level students and perhaps as a class activity, rather than a small group exercise.

1. What arguments are usually raised against spending more funds for increased or improved public transportation services?

2. Who usually raises these arguments?

3. Are there ways in which the public interferes with improved service because of its lack of consideration in how it uses (or abuses) public transporation vehicles?

4. Are there environmental considerations that make it unwise to construct certain kinds of vehicles, such as subways?

5. To what extent is it difficult to improve service because lack of ridership results in insufficient revenues?

6. Is there opposition to using public funds to support public transportation? If so, what argument does this opposition use?

7. Does human nature play a restricting role in the improvement of services in the sense that anyone who has to spend eight to 12 hours a day five or six days a week driving a vehicle is likely to become callous to certain considerations of courtesy and safety?

8. To what extent does vandalism impede efforts to provide quality mass transit service?

After conducting their research, groups meet to discuss the following issues:

1. Is there agreement among the people interviewed about the major problems that make it difficult for them to improve or expand public transportation services? If there is not, what might account for this disagreement? Whose explanations should be given credence?

2. Might any of the explanations for lack of improvement or expansion of services be cop-outs--excuses for other less noble reasons for inaction?

3. Was there any tendency to pass the buck among the people interviewed--that is, blame someone else for the difficulties in improving public transportation?

At the conclusion of or periodically during the discussion, you can mention potential constraints to improved public transportation that students may not have learned about during their research. Examples of *possible* constraints follow.

- Priorities in the expenditure of funds that result in lack of public funds for expensive but needed public transportation services

- Businesses, agencies, and individuals with vested interests against improving public transportation

- Lack of political or financial accountability by autonomous transit authorities, port authorities, etc.

- Lack of awareness, concern, or disclaimers of responsibility by government agencies and businesses for the need for improved public transportation

- Political unpopularity of any position involving persuading citizens to use automobiles less or increasing the costs or inconvenience of using automobiles in order to finance and promote public transportation

- Public's unwillingness to use public transportation with the result that there are not enough revenues to sustain the costs of improvements

- Widespread belief that the government should not subsidize public transportation--it should be self-supporting

- Human factors that discourage citizens from taking action, such as indifference; laziness; ignorance about the seriousness of the transportation problem or of what action they can take to solve it; lack of time; fatalism--belief that no action they can take will have any important effects; and selfishness-not wanting to give up the satisfactions and convenience of traveling by car

Evaluation Method:

Students role-play interviews similar to the ones they conducted providing the same or additional information as was given by the people they interviewed.

Variations and Supplementary Activities:

Students can role-play one or more of the interviews they conducted for the benefit of the rest of the class and experience some of the feelings involved in defending, justifying, or rationalizing (as the case may be) the problems involved in improving public transportation services.

Students can compare the constraints making it difficult to improve or expand public transportation services with problems European countries face and have sometimes solved regarding such services.

Students can write mock letters to officials and other employees complaining about public transportation services while other students play the part of the officials and write responses explaining the constraints that make it difficult for them to satisfy the complaint registered.

Students can interview transportation officials on the problems of setting up company-based carpools--and carpools for government employees.

ACTIVITY #41

Mini-unit Topic: Research Projects

Approximate Class Time: 1½-3 periods, plus out-of-class time

Capsule Activity Description: Students poll the public on its positive experiences with and complaints against public transportation.

Goal:

To be aware of the advantages and disadvantages of using public transportation.

Concepts Treated:

- There are many advantages and disadvantages to using public transportation.
- Different people have different reasons for using and not using public transportation.
- Citizens should assess the pros and cons of using public transportation before they travel.

ACTIVITY

Either as a class or in small groups, students design one or more polls for learning the following information from users of public transportation:

1. What do they like about the different public transportation modes (bus, subway, taxi, etc.) in the community?
2. What modes have they found to be particularly efficient, safe, and pleasant?
3. What grievances if any, have they against any public transportation modes?

Different students or groups of students can develop polls designed to elicit information about different public transportation systems in the community.* After conducting their polls, students tabulate and analyze the results and report to the class the answers to whichever of the three questions listed above were asked. A sample poll is provided on Spirit Master #7.

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*If there is no public transportation in the community, students can develop poll questions that ask the public what kind of public transportation. if any, they feel their community needs and why. See the following activity.

Evaluation Method:

. Students cite the advantages and a disadvantages of public transportation for each type of citizen polled and explain them.

Variations and Supplementary Activities:

Students can discuss whether consumer grievances about public transportation services should be publicized and whether the public should be encouraged to register complaints with appropriate authorities.

Students can discuss how the public can be motivated to seek actively to have its grievances redressed.

Students can conduct a poll to learn how the public rates public transportation service compared with that of airlines, intercity bus companies, and automobile manufacturers and mechanics.

Students discuss whether consumers should be encouraged to indicate to public transportation system authorities their positive experiences using public transportation systems and, if so, how.

Students can poll the public on its experiences with carpooling or on its thoughts about this method of semipublic transportation.

ACTIVITY #42

Mini-unit Topic: Research Project

Approximate Class Time: 2-4 periods, plus out-of-class time

Capsule Activity Description: Students poll friends, neighbors, and strangers to learn what public transportation modes and improvements the community needs.

Goal:

To be aware of the need for public transportation services in one's local community.

Concepts Treated:

- The adequacy of public transportation and carpools varies from community to community.
- Certain sacrifices may be necessary on the part of some citizens in order to improve public transportation.
- The public must decide whether it wants to make the necessary sacrifices to ensure adequate public transportation services.

ACTIVITY

Either in small groups or as a class, students design one or more polls (or use the ones provided on Spirit Masters #8 and #9) and administer them to one or more groups in the community to learn the following information:

1. What (additional) public transportation services does the community feel are needed?

2. Do some groups in the community disagree over what additional services are needed?

3. To what extent would residents be willing to use their automobiles less if additional public transportation services were available?

4. Would residents be more likely to use public transportation if it were less expensive than it is now?

5. Is the public willing to make sacrifices--for example, reducing its use of automobiles or paying higher taxes--in exchange for an expanded or improved public transportation system?

6. How effective would carpooling be in the local community as a means of semipublic transportation?

Students can consider polling the community at random or specific groups, such as other students, school faculty and administrators, the handicapped, the elderly, the poor, children, and different parts of the community, such as suburbs, inner-city areas, and rural areas.

After developing and administering polls, students tabulate results and analyze them in terms of whether there is a consensus in the community on what additional public transportation services would be desirable and whether citizens would be willing to pay for them with increased taxes, reduced other services, or both. Students than compare their findings with the results of a series of nationwide hearings on transportation needs provided at the end of the activity.

Evaluation Method:

Students write a brief report describing their community's needs in the area of public transportation and submit it to appropriate town authorities for comment.

Variations and Supplementary Activities:

Students can discuss whether there is a need for educating the public to the need for additional public transportation services and, if so, who should provide the education.

Students can take their findings to appropriate local authorities and inquire whether needed improvements in public transportation can be provided, and if not, why not.

Students can discuss the extent to which the public's reliance on and preference for the automobile as a form of transportation interferes with the expansion and improvement of public transportation services, and if so, whether such reliance and use should be discouraged and how.

Students can role-play different community groups advocating different additions to the community's public transportation system or expressing different views on a specific suggestion for expanding the public transportation system.

Students can ask people whether they feel a carpooling system could benefit the community, and if so, how and why.

Bus Transportation*

Patronage

When consumers were asked if bus service was adequate and convenient in their area, 39 percent said it was, while 52 percent found it unsatisfactory. A total of 42 percent reported that they never use the bus (17 percent) or use it only occasionally (25 percent). Only 11 percent of the respondents said they use the bus frequently.

However, when consumers were asked "If *free* bus transportation were available in your area, would you use it in place of your automobile?", of the 1202 respondents, 75 percent said yes, 19 percent said no, and 6 percent gave qualified answers. Consumers generally favor publicly owned systems they believe "produce greater ridership." They believe that in order to improve ridership, people must be educated to the use of mass transportation and that a better image of bus transportation must be developed to overcome the present "stigma" of riding a bus. They also feel that government agencies or transit authorities must be more responsive to citizen concern and complaints and in many places, they cited a lack of communication between governmental agencies and the people concerning bus transportation.

When asked to select the changes they would recommend to improve bus service in their area, of the 1128 respondents, 43 percent choose better scheduling and information; 22 percent want more night service in the city; 21 percent checked lower fares; 19 percent would like to see more express buses during rush hours, and 16 percent would like more modern buses. One hundred nine consumers (109) volunteered better routing and services as other bus improvements needed in their locality.

Adequacy of Service

Schedules. Frequently, consumers at the public hearings complained at length about the discomfort and inconvenience caused by infrequent bus service. They deplored the poor scheduling and unavailability of printed schedules. They suggested that better service could be provided by a mix of large and small buses, with the smaller buses or jitney types running more frequently. They feel more express buses should be used during rush hours.

In some places, consumers complained that buses stop running long before shopping areas close. For example, in St. Louis County, shopping centers close at 9:00 p.m. but buses stop running at 6:00 p.m. according to consumer testimony.

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*From *The Voice of the Transportation Consumer: Executive Summary* (National Technical Information Services: Springfield, Virginia, 1975); the volume reports on a series of 54 public hearings held in communities throughout the country.

Routes. In addition to poor scheduling, bus routes came under fire by some consumers. They cited the need for more crosstown and circumferential routing around the city to enable a consumer to go from one suburban area to another or one side of the city to another without having to travel to the heart of the city and then out again. They believe routes should be designed to be responsive to people's needs and that riders should not be required to accomodate their needs to the routes.

Consumers ask for better coordination between city and county authorities to adequately service areas outside the city limits. More service is needed from the central city to suburban industry and jobs and to carry inner city residents to suburban shopping areas. The present emphasis, they say, is on bringing people from the suburbs into the city to work. Interfacing with other modes would be acceptable. They like the idea of exclusive bus lanes and the use of peripheral parking in combination with shuttle buses from suburbs into and out of the city and cite the "Blue Streak" system in Seattle as a good example of effective transportation of this form. They also advocate small feeder bus lines for bus lines for bus service to the main bus arteries. Some people complained that bus companies are not providing service on all of their designated routes. They want enforcement of regulations that require a bus system to cover the entire franchise area and not just the lucrative routes.

Availability of Equipment

Consumers want capital grants from the Urban Mass Transit Administration (UMTA) expedited. They feel that the U.S. Department of Transportation (DOT) should encourage manufacturers, particularly General Motors, to increase production and shorten delivery time of buses, perhaps with tax incentives. They say Federal funds are of no help to communities to purchase buses or operate them if the buses are not available.

Fares and Funding

Generally, consumers want more Federal funding for bus transportation, both for purchase of equipment and operating subsidies although there are some bus authorities that appear to be self-sufficient. There is also some support for totally free transportation. It was indicated that free transportation seems to be working in Seattle, and there was advocacy for free transportation in the New York City area. Some consumers feel that higher fares reduce ridership and that higher fares without substantial government subsidy cannot do the job anyway. Others believe that if transportation is not to be totally free, fares should be lowered to encourage ridership. Concern was expressed that there may be some inequitable practices in setting fares and it was suggested that greater effort should be made to provide a more equitable fare structure.

Safety

There was little comment on this subject at the hearings except in East St. Louis, where there appeared to be a dispute between community leaders of East St. Louis and the Bi-state Transit Authority. These leaders would like to see psychological testing of bus drivers and enforcement of Interstate Commerce Commission (ICC) regulations so that drivers do not work too many hours. They alleged that complaints in this regard to the ICC have been unproductive. They want the means to prevent drunken and drug addicted drivers from operating buses.

Design

Consumers believe that buses should be designed in response to the desires of the consumers who use the buses. They want smaller buses with bigger doors and more comfortable seats, a place for bicycles, grocery carts, and strollers, and buses that will accomodate the elderly and the handicapped. A consumer in Knoxville, Tennessee, summed it up as follows: "Public buses are not designed with riders in mind; they should be modified to the specification of a panel of regular riders."

Shelters

A few consumers commented that the U.S. Department of Transportation (DOT) should encourage local bus companies to provide needed shelters and benches at bus stops, and should perhaps provide Federal funds for this on a matching basis.

RAPID TRANSIT

There was overwhelming support for the development of rapid transit rail systems in metropolitan areas throughout the United States... This included support for monorail transportation, trackless trolleys, elevated lines, subways, and battery-powered buses. Support was expressed repeatedly for opening the Highway Trust Fund to develop rapid transit. In testimony at the public hearings, people from Rochester, East St. Louis, Illinois, and Pittsburgh specifically advocated development of a rapid transit system from the city to the suburbs and within the city; some consumers want to utilize existing rail lines, others want to develop a new system. Some are concerned that the cost of rapid transit is too high and that it will not necessarily be a final solution to our transportation problems because Americans are still heavily dependent upon their private automobiles for transportation. Generally, consumers appear to strongly favor development of rapid transit systems. There was some criticism of San Francisco's Bay Area Rapid Transit System (BART) as well as support. Those supporting BART feel that it will be effective when it is completed. Those opposing BART believe that it is solely for middle-class commuters, that it is too limited in its use, and that the number of people served by BART is too small in comparison to the number who are paying for it. Some believe that hours of operation should be extended so as to provide greater availability. A major point made by those who criticize the present operation of BART is that a feeder system to provide transportation from the neighorhoods to the BART stations is desperately needed.

Some consumers advocated better utilization of existing subway systems before building new ones. They believe that in the development of new subways there should be better planning with input from subway riders, and more interfacing of modes so as to make connections to the subways more readily available. One consumer objected to what he called "arbitrary" power of the New York Port Authority and the Metropolitan Transit Authority. Support was also expressed for having minorities participate in the planning of rapid transit systems, particularly the one planned for the St. Louis-East St. Louis area.

Some concern was expressed that subway stations and rapid transit stations are dirty, trains are in deplorable condition, there are insufficient facilities for the handicapped and inadequate signs and other sources of information. Others voiced concern that, despite the huge investment in rapid transit systems, they are presently used by only a small percentage of the population.

ACTIVITY #43

Mini-unit Topic: Research Projects

Approximate Class Time: 1½-2 periods, plus out-of-class time

Capsule Activity Description: Students develop a program to introduce the young, elderly, handicapped, and nonusers in their community to public transportation.

Goal:

To be able to promote public transportation among nonusers.

Concepts Treated:

- Promoting the use of public transportation requires knowledge of the handicaps some people face in using these travel modes.
- Promoting the use of public transportation requires personal experience in using these transportation modes.
- Some people who do not use public transportation can be motivated to use it if they are given practical instructions in how to do so.

ACTIVITY

Break the class into small groups and ask them to choose one mode of local public transportation. Groups brainstorm the steps taken by commuters to use this mode, and develop precautions and travel hints the new or handicapped commuter should be aware of.

Example: Bus

Procedure

1. Obtain appropriate map(s) and schedule(s).
2. Determine route, noting where to get on and off.
3. Secure money for fare (correct change if necessary).
4. When getting on bus, ask driver to announce stop if you are unfamiliar with area.

Hints

1. Give yourself plenty of time for travel.
2. Always ask appropriate public transportation personnel or another commuter for assistance when you are unsure of what to do or where to go--it may save time and prevent getting lost.
3. Always move to the back of the vehicle if all seats are taken to avoid blocking the doorways.
4. Be aware of your safety at *all times* (on the bus, waiting for it, and disembarking).
5. Be aware that many vehicles reserve some seats for handicapped and elderly passengers; look for or ask about such seating.

Groups then take at least one trip themselves on the mode they have chosen and then revise their travel procedures and travel hints accordingly.

As a class, discuss specific problems various segments of the population (for example, the elderly, handicapped, parents with baby carriages, people with grocery carts, handicapped) have or could encounter as users of public transportation. Students can discuss such problems as inaccessibility of public transportation stops/stations; inadequate shelter facilities; poor vehicular and facility design making use difficult; and general safety hazards.

Students return to their groups and prepare booklets or pamphlets to aid first-time users of public transportation, noting specific problem areas and indicating ways to deal with these inconveniences.

Arrange for students, alone or in pairs, to take another individual who is unfamiliar with public transportation or who has encountered difficulty when using it on a trip, using and explaining the public transportation system. These excursions can be taken after school or on weekends.

After the initial guided tours, the student groups reconvene. Students discuss any new problems they encountered on their trips and how they coped with them. If necessary, group booklets are updated to reflect any additional information gleaned from the project. Booklets can be donated to an appropriate town or community agency.

Evaluation Method:

Students interview the people they assisted in using public transportation regarding their current attitudes toward using public transportation and assess whether these attitudes have changed, and if not, why not.

ACTIVITY #44

Mini-unit Topic: Research Projects

Approximate Class Time: 1-2 periods, plus out-of-class time

Capsule Activity Description: Students research the structure, powers, and decision-making process of public transportation authorities.

Goal:

To know how public transportation authorities make their decisions.

Concepts Treated:

- Public transportation authorities may make decision affecting the public without effective citizen involvement in the decision-making process.
- There are often ways in which the public can participate effectively in the decision-making process of public transportation authorities.
- Public transportation authorities may not be responsive to the needs of the public unless citizens take advantage of opportunities to participate in the decision-making process of these agencies.

ACTIVITY

Break the class into several groups. If your community has more than one mode of public transportation, each mode should be covered by at least one group. If students live in a community with only one mode of public transportation, the entire class can research the same authority. If no public transportation is available, students can discuss the feasibility of it with local officials.

Students can research the answers to the following questions:*

1. Who serves on the authority? How are these persons appointed or elected? How long do they serve?

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*For a discussion of citizen participation in transportation planning, see the reading at the end of this activity and the Bibliography.

2. What are the motives of people who serve on public transportation authorities? What is the compensation? Are there other rewards such service can provide, such as political advancement, furtherance of personal ideals, publicity?

3. What are the powers of the authority or agency? Specifically, what can it do and what can it not do? Who funds the authority?

4. Who oversees the authority's actions? To whom is it responsible? Do people or agencies which have responsibility for overseeing the authority's actions exercise that power at all or effectively?

5. How does the authority make its decision? Who is able to exert influence over its decisions--unions? citizens? politicians? pressure groups?

6. What provisions does the authority provide for citizen participation?

In addition to researching the general powers and decision-making processes of each authority, each group also picks an important recent decision made by its authority and researches how the authority arrived at that decision. Examples of important recent actions many public transportation authorities have taken include installation of exact-fare system (operator does not give change); discontinuation of service in a part of the community or extension of service to a section of the community; purchase of a new type of vehicle; change in fares; and installation of special fare system for children or the elderly.

In particular, students research the role the public transportation system's employees play in the decision-making process. For example, to what extent has the installation of the exact-fare system in many communities resulted from pressure from employees concerned about robberies? Students also focus on the extent to which public transportation authorities make decisions with a view to Federal funding possibilities and to comply with Federal transportation regulations. Finally, students seek to learn whether there is an effective method by which the public can participate in the decisions of public transportation authorities.

Students conduct their research by interviewing public transportation officials and other employees (including vehicle operators), reading back issues of local newspapers, and where possible, reading articles and books. After conducting research, groups prepare and present a report to the class concentrating on the extent to which the public is effectively barred or involved in the decision-making process of the public transportation authorities they studied. Students compare their conclusions with the complaints transportation consumers made at a series of national hearings on transportation. These complaints are summarized at the end of the activity.

Students should be aware that, under U.S. Department of Transportation regulations, before any locality may receive Federal funds for a public transportation project (or a highway project), it must provide for citizens to participate in the decision-making process. Students interviewing local officials should ask how the locality complies with these Department of Transportation regulations.*

Evaluation Method:

Students outline in a booklet how public transportation authorities make their decisions and indicate how citizens can effectively participate in their decision-making process.

Variations and Supplementary Activities:

Students can interview the public on its views about how public transportation authorities make decisions, on its views about recent decisions, and on the ways in which citizens have participated or would like to participate in the decision-making process.

Students can develop a brochure for the library or public describing the ways in which the public can become involved in the decision-making process of public transportation authorities.

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*For further information write for copies of *Getting Involved in Transportation* (U.S. Department of Transportation, Office of Consumer Affairs: 400 7th and D Streets, S.W., Washington, D.C. 20590) and *In Productive Harmony: Environmental Impact Statements Broaden the Nation's Perspectives* (U.S. Environmental Protection Agency: Washington, D.C. 20460). See also the reading at the end of the following activity.

Citizen Participation in Transportation Planning*

Citizen Input at the Initial Planning Stage

Throughout the public hearings, consumers expressed vocal support for a policy that would guarantee citizen participation and involvement in the transportation planning process at the beginning or, at least, at a very early stage. If citizens understand and are given opportunities to participate there is more assurance that social, economic, and environmental aspects will be fully considered in the planning process and less likelihood that neighborhoods will be seriously damaged or destroyed. They want an opportunity to provide input well in advance of public hearings, so that their concerns and thinking will be considered before plans reach such an advanced stage that it will be difficult to accomodate them. They want citizen participation to be genuine and meaningful with "no phoniness," as one consumer put it. When highways are contemplated, they want alternatives presented so that these too can be considered. They desire to be involved in *all* aspects of transportation planning, even as it relates to other projects, such as housing and commercial development.

Facilitating Citizen Input

Consumers believe that officials should not merely wait for citizens to come to them but that travelling community workers should go to residents in the community, particularly in the inner city, to talk to them and determine firsthand their needs and thinking. They also called for intensive study and extensive efforts to contact citizens *before* required public hearings are held. There is concern that there may be disproportionate representation in the planning process and at the public hearings from the highway lobby, industry, and special interest groups. Because of this, consumers want a greater effort made by government to inform the public, particularly the poor, of proposals being considered, the schedule of planned public hearings, and other meetings to which the public is invited. This information process should be accomplished through the efforts of community workers with wide distribution of multilanguage posters and publications and with door-to-door explanations of proposals and proposed meetings. The lcoal newspaper is not a sufficient source of information since many don't read the paper or understand English.

Consumers asked that hearings be held in the evenings, at a time and a location convenient to the public, particularly the low income who cannot attend hearings during the day. They believe the convenience of the public should supersede the convenience of the engineers and planners. Some consumers believe that government agencies should help even to the point of subsidizing travel and other necessary expenses of citizens to enable them to attend these hearings. They made the point that special interest groups are well funded but represent a biased viewpoint.

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*From *The Voice of the Transportation Consumer: Executive Summary* (National Technical Information Service: Springfield, Virginia, 1975).

Some consumers also expressed support for legislation that would require all communities to have a recognized transportation consultant to represent the consumers' interest when building new transportation systems. Similar experts are provided in other areas of public concern, such as utility hearings, and they feel that the same provision should apply to the transportation-planning process. One consumer in Pittsburgh suggested that all communities that apply to the Urban Mass Transit Administration (UMTA) for support in building a transportation system should be required to retain an acceptable consultant representing the people. Consumers also believe that there is a need for adequate representation of consumers on policy boards and in the planning, scheduling, and management of public mass transportation systems.

Implementation of Citizen Input

Consumers strongly believe that planners should be required to implement the citizens' desires where feasible and not simply ignore them and that citizen input should continue to be considered in the operation of the transit system. However, they believe that once everyone has had an opportunity to be heard, officials should make decisions and take action promptly.

ACTIVITY #45

Mini-unit Topic: Research Projects

Approximate Class Time: 1½-3 periods, plus out-of-class time

Capsule Activity Description: Students research methods of citizen participation designed to promote public transportation.

Goal:

To know what constraints make it difficult to improve public transportation and what methods are available for overcoming them.

Concepts Treated:

- Many constraints make it difficult to improve public transportation.
- There are methods by which many, if not all, of these constraints can be overcome.

ACTIVITY

A small group of students researches the constraints that make it difficult for citizens to promote public transportation in their community and throughout the nation. The group also researches methods for overcoming these constraints.

Before your students conduct their research, tell them that there are new Federal regulations that require citizen input at the local transportation level. Explain that these regulations require any locality receiving Federal funds for a public transportation project (or a highway project) must provide for citizens to participate in the decision-making process prior to securing any funds. (For additional information on this process, see the reading at the end of this activity.)

With this background information, students can then research three areas of study related to citizen participation to promote public transportation:

1. *What obstacles* make it difficult for citizens to take action to promote public transportation?

2. *Who* on the local, state, and national levels can be influenced most easily and effectively by citizens to promote public transportation?

3. *How* can these individuals or groups be influenced?

The group selects a case study, either a live community issue, a well publicized example, or a hypothetical issue such as the one described on Spirit Master #10. The group then decides what research methods to use, for example, reading available literature, interviewing appropriate officials, or polling the public. The group then divides responsibility for the research and carries it out. After completing research, the group compares findings and prepares and delivers its report. The class (or you) fill in data or considerations not discussed by students, being certain that all the following points are covered:

Possible Obstacles

Groups or individuals may have vested interests against public transportation due to lack of political or financial accountability by autonomous transit authorities, port authorities, etc. or lack of awareness or unconcern by government agencies and businesses regarding the importance of public transportation. Other obstacles include disclaimers of responsibility by government agencies and businesses for providing or improving public transportation services or vehicles; claims by business or government that additional research is needed to verify the need for public transportation--placing the burden of proof on the environmental protection advocate; industries and businesses who have powerful and well defined lobbies at all government levels and for whom public transportation improvement would cost money or involve loss of sales; the press and media, some of whom may be dependent on advertising by businesses that may be hostile to public transportation; politicians who are reluctant to support programs that might necessitate tax increases or other actions not popular among the voters and political supporters; politicians who are reluctant to jeopardize campaign contributions from businesses or who have business interests of their own which may be hurt by public transportation; lack of coordination among various government agencies and private businesses who could be involved in a unified program to promote public transportation; and log rolling among legislators: willingness to vote for (or to abstain from voting against) other legislators' bills in expectation of future reciprocal consideration.

Human factors that discourage citizens from taking action include laziness; resistance to spending tax money on public transportation; unawareness of the need for a balanced transportation system in which automobiles and mass transit complement each other; indifference; fear of reprisals; lack of time; fatalism or cynicism--belief that no action they can take will improve the situation; and selfishness. Also, the costs of providing adequate public transportation, in terms of both equipment and labor, are high--public transportation is often expensive to initiate and operate. Other budget items (for example, schools, fire protection, law enforcement) are often considered to have higher priority for funds.

Who Can Be Influenced

Target groups among the government, business, and educational community include some regulatory agencies and politicians, especially at election time. One can seek out the most responsive *level* of government--for example, local transit authority for fares, schedules, routing, condition of buses, unsafe driver behavior, and lost items; local officials for scheduling, routing, fares, condition of buses, and funding; consumer groups and Better Business Bureaus for scheduling, routing, fares, and the condition of buses; newspaper action lines to give wider circulation regarding public transportation problems; the U.S. Congress for funding and lack of adequate public transportation service; the Urban Mass Transportation Administration (UMTA), U.S. Department of Transportation, for funding information and safety defects in public transportation equipment; and the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, for reporting safety defects on automobiles and buses. Citizens and citizen groups likely to take action include those whose personal interests are at stake (e.g., residents who need public transit) and those with a sense of community responsibility.

How These Groups and Citizens Can Be Influenced

Target groups among the government, business, and educational community can be influenced by citizen participation in public hearings held by transportation planning agencies* and by citizen involvement in advisory committees. Petitions and letter-mailing campaigns may be effective with some political leaders, especially during election years and when key bills are in committee or up for vote, and peaceful rallies or picketing at key times and places to publicize the issues may make authorities take notice and bring pressure to bear on targeted individuals, agencies, or businesses. Also helpful is introducing aggressive legislation into legislatures, town councils, etc. The mere proposal of legislation may bring results.

Citizens and citizen groups can take part in peaceful rallies that impart excitement, a feeling of participation, the hope of success to a line of action, and enlist new volunteers, or they can run educational campaigns via fact sheets, newspaper advertisements, lectures. There is a need for specialists, especially planners, who have the time and energy to devote considerable attention to the campaign. All these can lead to the formation of coalitions among citizen groups for more power.

Evaluation Method:

Students are given a real or hypothetical case study in which citizen participation is needed to effect an improvement in the public transportation system. Students identify the obstacles involved in trying to make the citizen participation effective and how those obstacles might be overcome.

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*See Bibliography entries that discuss Federal regulations regarding citizen participation.

Variations and Supplementary Activities:

Students can develop their own hypothetical case studies, similar to the one provided on Spirit Master #9; exchange them; and in small groups, individually, or as a class repeat one or more of the steps in the activity using the case studies as a point of reference.

Students can identify personal, social, and political actions citizens can take to obtain the improvements in public transportation service they feel the community should have.

Students can role-play a person advocating a public transportation improvement with a person who opposes the improvement, with each person seeking to convince the other of the rightness of his or her position.

Participating in Transportation Planning

The Federal Highway Administration (FHWA) works with state highway agencies to ensure that community organizations and individual citizens are actively encouraged to participate in the planning and design of Federal-aid highway projects. Under the Federal-aid program, state highway agencies initiate, plan, design, build, and operate highway projects. (The FHWA provides financial assistance and guidance and is responsible for certain key approvals.) Each state highway agency has formulated a community involvement program--part of the state's action plan--which explains the procedures that are followed.

In addition to community involvement programs, each action plan explains how social, economic, and environmental factors are identified and studied, how the assistance of a wide range of professional skills is obtained and utilized, and how consideration of all feasible alternatives is assured in the highway planning process. Copies of action plans are available from state highway agencies or can be examined in their offices.

Action plan programs for community involvement include opportunities for interested citizens to participate in the planning and design process. In addition to public hearings, most states place emphasis on public meetings. Frequently such meetings are conducted as workshops, run with the assistance of local officials and agencies. In many instances coordination meetings are held with local officials prior to the public meetings. Under state action plans, mailing lists are maintained to provide early notification and continued information to known interest groups and individuals. Concerned citizens may contact their state highway agencies and ask to have their names placed on these mailing lists.

To ensure that environmental concerns and values are given systematic consideration equal to economic and technical considerations in the Federal decision-making process, the National Environmental Policy Act of 1969 (NEPA) requires each Federal agency to prepare a statement of environmental impact in advance of each major action, recommendation, or report on legislation that may significantly affect the quality of the human environment. Such actions may include new highway construction, harbor dredging or filling, nuclear power plant construction, large-scale aerial pesticide spraying, river channeling, new jet runways, munitions disposal, and bridge construction. Each environmental impact statement must assess in detail the potential environmental impact of a proposed action, and all Federal agencies are required to prepare statements for matters under their jurisdiction. The statement's primary purpose is to disclose the environmental consequences of a proposed action, thus alerting the agency decision maker and the public to the environmental risks involved.

As early in the decision-making process as possible, and in all cases prior to agency decision, an agency prepares a draft statement for review by appropriate Federal, state, and local environmental agencies as well as by the public. The impact statement procedure affords the public an opportunity to participate in Federal decisions that may affect the human environment. Each draft statement must be made public by the responsible agency at the time it is circulated for comment, a date not less than 90 days before the proposed action. Draft statements are announced in the *Federal Register,* published daily by the U.S. government and subscribed to by some local public library systems, many university libraries, and most law libraries.

After comment from the agencies and interested parties, the statement is prepared in final form, incorporating all comments and objections received on the draft and indicating how significant issues raised during the commenting process have been resolved. Both draft and final statement are made available to the public. Interested citizens may submit comments to agencies on any impact statement issued by them. If an individual believes a draft statement to be inadequate, he may offer written comments on the draft. If he believes the disposition of his comment in the final statement to be inadequate, he may so notify the agency involved.

In addition to these mechanisms for public participation, many agencies provide for public hearings not only at various stages during the performance of their statutory missions but during the impact statement process itself.

The importance of the role citizens play in the impact statement process has been recognized by the courts. In many cases, the courts have upheld the right, or standing, of citizens to sue on environmental grounds.

ACTIVITY #46

Mini-unit Topic: Research Projects

Approximate Class Time: 1 period

Capsule Activity Description: Students discuss improving public transportation by regulating the commuting behavior of the public.

Goal:
To be aware of how changing the commuting behavior of the public may reduce congestion on public transportation vehicles during rush hour.

Concepts Treated:

- Scarce energy resources can be conserved if the public's commuting habits shift more toward using public transportation.
- Overcrowding during rush hour on public transportation vehicles might be alleviated if industry altered its working hours for employees.
- A feature of public transportation, which alienates existing riders and drives away potential riders, is overcrowding during rush hour.

ACTIVITY

Seventy-seven percent of the nation's work force travels to work every day by private automobile. One reason many of these people do not use public transportation is the overcrowded condition of many buses, subways, and commuter trains during rush hour. In this activity, students explore ways in which the demand for public transportation services can be reduced during rush hour times of peak ridership by changing the hours people go to work. In this manner, if more people are willing to use less crowded public transportation systems for travel to and from work over a spaced out rush "hour" period, considerable savings of scarce energy resources can be realized as gasoline consumption for private automobiles declines.

Students begin the activity by writing their responses to the following scenario, which you can adapt to reflect the local transportation situation.

> You have just been appointed transportation commissioner for your community. One of the most serious problems you have to face is overcrowding on the buses (trains, etc.) during the morning and evening rush hours. However, you are limited in what you can do: you have no money with which to improve public transportation. You cannot buy new buses (trains, etc.) or hire more people to run them more often. What you *can* do, however, is try to change the time when people go to and from work so that not everybody leaves for work between 7:30 and 8:30 in the morning and leaves for home at 5:00 every evening. There are three ways this could be done.
>
> 1. Companies could change their hours so that some (or all) of their workers must show up at work later or earlier than usual and go home before or after 5:00 P.M.
>
> 2. Companies could allow their workers to come to work any reasonable hour they want and leave anytime between 3 and 7 P.M. as long as they put in an eight-hour day.
>
> 3. Companies could switch to a four-day week, with some workers taking off Mondays and others Fridays (or even days in the middle of the week).
>
> You cannot force businesses to do any of these things, but the mayor (town council) has said he would personally encourage industry to go along with your proposals by pointing out the advantages such changes would have for *them*, as well as for their employees, and by reducing taxes on companies willing to cooperate. The mayor (town council, etc.) is waiting for your ideas on what to do. What will you tell him he should ask business to do? How will you defend your proposals?

After writing their responses, the class should break into small groups. You can group students in one of two ways: have each group composed of students who advocated different types of solutions (staggered work schedules, flexible hours, shortened work week) or group the students homogeneously so that each group has students who advocated the same course of action businesses should take. In the former method, each group must reach a consensus on what single course of action or combination of actions would be best; in the latter method, each group refines its particular solution and then presents it to the class. Discussion follows on which group's plan is better and why.

After the activity, the class considers how other communities have implemented these three approaches to reducing rush hour traffic congestion. You can either duplicate and distribute the following pages which describe such programs or describe these programs to the class yourself.

Evaluation Method:

Students invite an industry official to evaluate ideas for regulating the commuting behavior of the public and assess his or her attitudes.

Variations and Supplementary Activities:

Students can develop and administer a poll to community residents or to business officials asking them their opinions about the utility of each of the three proposed solutions to rush hour traffic congestion.

Students can seek to implement one of the three programs in a small business or agency.

Students can research or discuss the extent to which the need for automobiles can be reduced by planning housing developments accessible to work places and by developing residential neighborhoods near shopping and recreational areas.

Students can invite to class officials or employees of a business that has adopted one of these plans to reduce rush hour crowding to describe how the program works and what effects it has had on the company and its employees. If no such program exists in the community, students can invite officials of a business to discuss their feelings about instituting such a program.

Adjusting the Demand for Transportation Services and Facilities*

A back door approach to improved urban mobility rests on reducing or modifying travel behavior. If people have little or no need to make a trip by automobile in order to go to work, to shop, to school, or for entertainment, there would be a corresponding drop in the demand for more and better transit services, for more parking lots, and for more roads. Success in cutting this transportation demand will take long-range efforts and involve fundamental changes in land-use planning. In the meantime, however, some changes can be instituted that can adjust the demand for transportation facilities so that urban mobility can be improved.

Staggered Work Schedules

To meet the peak-hour demand, transportation officials have generally concentrated on increasing the size of the vehicle fleets and increasing street capacity. However, in most metropolitan areas, increasing street physical capacity much beyond what it is at present is no longer an economically or environmentally practical alternative. Adding more buses to the fleets will help substantially, but this is costly and may even compound the peaking problem.

Some relief for the rush hour crunch may also lie in the technique of staggered working hours. Programs that stagger employee arrival and departure times try to spread out the peak hours, to smooth out the difference between peak and nonpeak and thus ease the flow of people into and out of the central city. Extending the peak-hour demand over a longer period of the working day spreads out the demand and permits more efficient use of street space and transit vehicles.

There are several alternative methods of staggering work hours. The "traditional" nine-to-five work day can be adjusted to stagger employee arrival and departure times over a short time period. Four years ago, New York City's launched a campaign to shift people working in lower Manhattan out of the nine-to-five pattern. Today, the expanded program is credited with switching more than 200,000 employees in 400 Manhattan firms to staggered hours that permit them to travel to and from lower and midtown Manhattan during off-peak hours. Most of the participating companies chose an 8:30 to 4:30 schedule, some an 8 to 4 schedule, and others a 9:30 to 5:30 schedule. These three new schedules extended the peak period from 8 to 9:30 in the morning and from 4 to 5:30 in the afternoon. The transit systems, the road systems, and the people are all benefitting from the plan. Among employees, the plan has an 85 percent approval rating; employers credit it with increased employee

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*From Barbara K. Reichart, *Improving Urban Mobility through Better Transportation Management* (U.S. Department of Transportation: Washington, D.C., 1975).

punctuality (resulting from increased transit punctuality) and reduced elevator congestion; and transit managers credit the plan with a 26 percent cut in the size of the rush hour crush at neighboring subway stations and a corresponding increase in passenger trips during the previously underutilized periods.

In Philadelphia, a program that began in 1970 as a test project at Smith, Kline and French Pharmaceutical Laboratories switched 57 percent of the 2900 employees from the 8 to 4 peak schedule to an 8:45 to 4:30 schedule (with a 45-minute lunch period). The staggered hours program has now grown to involve more than 32,000 people working in the center city. Certain types of businesses have adopted the late-hour schedule quite naturally. Department stores in Philadelphia not only serve their customers more conveniently, but also contribute to the staggered hours program by following a later-opening/later-closing pattern.

The Chamber of Commerce and the Delaware Valley Regional Planning Commission are aiming at a goal of 50,000 participants. At that level of participation, evening rush hour loading on the major east-west subway and elevated are expected to drop by at least 15 percent, giving passengers more reliable and more comfortable service. A similar 15 percent shift in demand-period passenger trips is predicted for the Lindenwold High Speed Line linking Philadelphia to New Jersey communities across the Delaware River.

At least eight other major cities are also implementing types of staggered working hours. Since 1970, 50,000 employees in six Federal departments in Washington, D.C. have been arriving at their offices in 15-minute intervals from 7 a.m. to 9 a.m. with corresponding staggered departing times. State and local governments have taken the lead in setting up a staggered work schedule for their employees in Albany, New York; Raleigh, North Carolina; and Inglewood, California. Several companies have also launched staggered hour programs on their own to help employees avoid traffic snarls and improve punctuality.

"Gliding" or Flexible Hours

Staggered working hours can also take the form of flexible hours--also called flextime, gleitzeit, or gliding hours. This generally consists of a prescribed block of time during which all employees in an organization must be present while allowing employees to select their own starting time and quitting schedules to fit their individual needs and preferences. This enables employees to take advantage of carpooling and other ride-sharing opportunities and scheduled public transit services. In a regulation recently published by the General Services Administration of the Federal government, all Federal agency supervisors were reminded of their prerogative to adjust the schedule of an employee to facilitate carpooling and the use of mass transit.

In an eight-hour working day, some employees could opt for an early-arrival schedule of 7 a.m. to 3 p.m., which offers particular benefits to those who desire to do errands or to be home earlier in the afternoon. Others may find a later-arrival pattern more suitable. In occupations permitting a large degree of independent activity and not requiring immediate communications with other areas (such as some types of industrial processing, data processing, etc.), better use of Saturdays as working days could be made for those employees who prefer a Sunday-to-Monday "weekend."

All these methods try to stagger the working hours within the traditional five-day work week. Another option available to adjust the demand for transportation facilities is the shortened work week.

Shortened Work Week

There are two general types of shortened work week programs. One type, the reduced work week, actually reduces the total number of hours worked each week. The "compressed" work week retains the same number of hours per week but condenses them into fewer days. For example, a 40-hour work week can take the form of a four-day, ten-hours-a-day schedule instead of the familiar five-day, eight-hours-a-day routine.

In theory, if the four-day work week were adopted by the entire working population in a given metropolitan area and the extra "day off" were evenly distributed from Monday to Friday, the demand for transportation services and facilities to serve commuters could be reduced by 20 percent, since only 80 percent of the entire work force would be reporting to work on any given day. If the extra day off were to be distributed over six days, there would be a theoretical reduction in demand of 33 1/3 percent.

Another easing of demand could be gained by staggering the starting and quitting times within the ten-hour day. Fifteen-minute intervals extending over an hour and one-half in the morning and again in the evening would level the demand for transportation services and facilities to more manageable loads, instead of trying to accommodate all the travelers simultaneously.

Some 600 firms in the United States have put into practice some version of the four-day work week for at least some of their employees where such a system was compatible with the interests of both the company and its employees. These occasional instances of four-day work weeks contribute to leveling transportation demand.

Before any large scale commitment to a four-day (or three-day) work week is made, certain questions remain to be answered. What are its impacts on the viability of public transit systems? For what types of employment activities can a staggered work week program be effective? What are the effects of such a program in terms of production costs, including energy consumption? What is the effect on employee well being? What do employees do with their extra day? What are the impacts on carpooling programs and other national energy-conservation programs, on land use? Are they harmonious?

A well intentioned staggered work week program could have unintended negative consequences. For example, a staggered work week program could seriously jeopardize ride-sharing programs and public transit service if it encouraged--by reducing street congestion--more people to drive private automobiles to work. Another negative effect could occur if the program, designed in part to conserve fuel resources by reducing the number of home-to-work trips an employee must make per week, resulted in the extra time off being spent driving the private automobile for recreational or pleasure purposes.

What this suggests is that any program aimed at shifting the work pattern of a number of people must pay careful attention to all possible consequences and try to find a proper balance.

ASSESSMENT ACTIVITIES

The three activities that follow are designed for use as evaluation tools before and after you use one or more of the preceding mini-units or activities.

The first activity enables you to assess before using one or more units what topics and issues related to public transportation your students are interested in studying. The information you glean from the activity will help guide your selection of mini-units and activities to use.

The second activity is a course assessment exercise that will enable you to learn what your students liked and didn't like about the mini-units or activities you have used.

The final activity consists of a series of essay questions you can ask your students in order to evaluate how much they learned from the mini-units or activities. You can also administer the questions before you teach about public transportation as well as afterward and compare results. In any case, use only those questions that treat topics your students will be studying or have studied.

ASSESSMENT ACTIVITIES

Activity #	*Activities*	*Class Time*
47	DESCRIPTION: Teacher and students evaluate class concerns about and attitudes toward public transportation.	½-1 period
48	DESCRIPTION: Students evaluate the course.	½-1 period
49	DESCRIPTION: Students answer oral or written questions on public transportation.	½-1 period

Total Class
Time: 1-3
periods.

ACTIVITY #47

Assessment Activity Approximate Class Time: ½-1 period

Capsule Activity Description: Teacher and students evaluate class concerns about and attitudes toward public transportation.

ACTIVITY

This activity is designed to enable you and your students to learn what aspects of public transportation your students are interested in studying. If you have the flexibility to develop a unit on public transportation that is responsive to your students' expressed interests, you can implement this activity and then select for use the activities that meet the concerns your students have expressed.

Student Attitude Questionnaire

Do you have any problems in your community with any of the following aspects of public transportation? (Check all that apply.)

Aspect of Public Transportation	*No Problems*	*Some Problems*	*Many Problems*
Enough buses, trains, subways, ferries, light rail (trolleys), or taxis in the community where you live.			
Crime on the buses			
Pollution from buses			
Traffic accidents involving buses			
Costs of using the buses			
Slowness of travel by bus			
Finding seats on buses			
Crowding on buses			
Poor air conditioning or heating on buses			
Dangerous driving practices by bus drivers			
Dirty buses			
Late arrival or departure times of buses			
Discourteous language or actions by bus drivers			
Lack of opportunities to join carpools			

How much difference in the following ways would it make to you if there were better public transportation service in your neighborhood? (Check all that apply.)

Reason	*No Difference*	*Some Difference*	*Big Difference*
Your ability to get a job or a job in another area of the community			
Your ability to get to work faster or safer			
Your ability to go to the park, movies, visit friends			
Your ability to secure basic necessities, such as food and medical care			
Your ability to travel more cheaply than by car			
Your ability to travel more enjoyably than by car			

The best ways to provide better public transportation are

1. By citizens demanding better service from public transportation companies ____
2. By educating the public to use public transportation more ____
3. With more government money ____
4. By electing more politicians who are dedicated to mass transit ____
5. Through citizen involvement in transportation planning ____
6. Other (specify)

____

____

____

A course on public transportation could help me most if it

Dealt with the following specific public transportation topics (specify):

____

____

____

____

____

____

____

____

Let me study what I want, but assisted me to do so effectively by (specify):

____

____

____

____

____

Used the following learning methods (check all that apply):

- Art ___
- Audiovisual ___
- Debates ___
- Discussions ___
  - Small group ___
  - Class ___
- Drama ___
  - Role-plays ___
  - Games ___
- Field trips ___
- Independent study ___
- Interviews ___
- Lectures ___
- Polls ___
- Reading ___
- Research ___
- Teaching peers ___
- Volunteer work ___
- Writing ___

ACTIVITY #48

Assessment Activity Approximate Class Time: ¼-1 period

Capsule Activity Description: Students evaluate the course.

ACTIVITY

Students answer orally or write responses to questions designed to help reveal to them and to the teacher whether the course objectives were achieved and, insofar as they were not, how they can be achieved in the future.

Sample questions appear on the following page.

After answering the questions, the class can discuss in small groups or as a class the value of the course and how to improve it based on the students' written responses.

Course Evaluation Questions for Students

1. What did you gain from this course? (Check as many or few of the following as apply.)

___ Only a review of well known facts

___ A few new useful facts

___ Much new useful information

___ Better understanding of (fill in what course covered)

___ Desire to go more deeply into study of (fill in topics covered)

___ Some new and important attitudes toward (fill in topics covered)

___ Changes in my personal travel behavior or my reactions to other people's travel behavior

___ Other (explain briefly)

2. From which parts of the course do you feel you learned well?

___ Preparation of homework assignments

___ Individual reading

___ Oral reports

___ Written reports

___ Lectures

___ Role-plays

___ Games

___ Individual projects

___ Guest speakers

___ Debates

___ Small group discussions

___ Field trips

___ Audiovisual Aids

___ Other activities (list them)

3. What is your opinion concerning the amount of time spent studying public transportation?

_______ Too much ______ Too little ______ About right

4. What questions or topics had you hoped would be included in the study but were not?

5. What suggestions do you have for improving the course?

6. Do you feel that there were unnecessary repetitions in material covered in this class and material covered in another class or classes? If so, what material?

7. What do you think are the greatest needs in public transportation?

8. After having considered very carefully what you have learned during this course, have you changed your mind concerning your personal use of vehicles and transportation facilities? If so, how?

ACTIVITY #49

Assessment Activity Approximate Class Time: ½-1 period

Capsule Activity Description: Students answer oral or written questions on public transportation.

ACTIVITY

A series of questions on various aspects of public transportation follow. You will want to select and use only those questions that treat aspects of public transportation your students have studied.

You can also have your students develop their own questions individually or in small groups.

Each activity in the Manual also has its own evaluation method. You can use the following quiz questions to supplement or replace those evaluations.

1. Choose one mode of local public transportation and assess its worth to the community. Keep in mind safety, convenience, cost, and comfort.

2. Discuss the differences (if there are any) between public transportation vehicles and other types of vehicles.

3. Using the map of your community, plan and draw routes for a mode of public transportation to serve the community. Defend your plans by explaining your reasons for your route placement.

4. Draw the "perfect" public transportation vehicle. Describe its features and benefits.

5. What are the advantages and disadvantages of public transportation?

6. Discuss the reasons people do not use public transportation. Suggest ways public transportation could increase ridership and devise a plan to do so.

7. You are on the subway going home after a difficult day at work. The weather outside is hot and it is even hotter inside the subway car. People are jammed in like sardines. The car has just stopped at the Smith Street Station which is the stop just outside the tunnel leading to your station. Some people got off but more seemed to get on. The subway starts up and is about to enter the tunnel when the brakes are suddenly applied and there is a terrific crash. People seem to be falling everywhere. You suddenly find yourself on the floor but don't seem to be hurt. You hear people shouting and crying. What do you do now?

8. Choose one group of people (elderly, children, handicapped, or some other group of your choosing) and describe problems they often have using public transportation, ways they can cope with those problems, and what public transportation can do to alleviate those problems.

9. Compare the positive and negative features of trolleys, buses, taxis, and automobiles. Build a case for using each mode; then determine which one is most practical for travel and the environment in your community.

10. What are some of the personal actions citizens can take to promote public transportation? Do you feel citizens should try to persuade each other to use public transportation and carpools? why or why not?

11. What kinds of poor service would you feel justify your complaining to a public transportation company?

12. How would you go about complaining to a public transportation company about its poor or dangerous service?

13. When a citizen complains to a public transportation authority about poor service, why might the authority be unable or unwilling to solve the problem or redress the grievance?

14. What do most people do when they feel they have a legitimate complaint against a public transportation company? Why do they do what they do? If they do nothing, why don't they take any action?

15. In what ways can increasing use of public transportation, decreasing automobile travel, and making more efficient use of the automobile help the environment?

16. What effects can the increased availability of public transportation have on the work and residential patterns of citizens?

17. There are several social and political actions citizens can take to promote public transportation. Describe one such action and

    (a) Indicate whether the action would be effective, and why.

    (b) Outline how, exactly, it should be carried out.

    (c) Indicate what effects, if any, the increase in public transportation services would probably have on the community.

18. If there were a transportation planning effort going on in your community, how would you find out about it? How would you get involved?

19. There are often obstacles that make it difficult for the average citizen to get involved in social or political action to promote public transportation. What are some of these obstacles? Discuss whether and how they could be overcome.

20. Some people feel that if citizens were better informed about the importance and availability of public transportation they would promote public transportation. Do you agree that an education program would be helpful in encouraging people to use public transportation more and private automobiles less or more efficiently? If you do, who should do the educating and what, exactly, should the public be taught or informed about?

21. What does the expression "cost-benefit" mean? given an example in the field of public transportation.

22. How is public transportation funded? How should it be funded?

23. What are some of the actions the government has taken to promote public transportation and carpooling? How effective have these actions been? Are there other actions the government should take?

24. What role should the government take in promoting public transportation and carpooling? For example, should the government discourage citizens from using automobiles by making it more expensive for them to do so?

25. What are some of the methods by which the government could encourage people to shift from automobile travel to public transportation, more efficient use of the automobile, and carpooling? Which of these methods, if any, should the government adopt? Why?

26. What are some of the methods by which the government could make it so expensive to commute by automobile that people would make more efficient use of the automobile and would use public transportation more frequently? Which of these methods, if any, should the government adopt? Why?

27. Should the government provide incentives to business to stagger their work hours so that employees arrived and left work at different hours? Would this relieve crowding on public transportation vehicles during rush hours or would people continue to use cars--or use them even more?

28. What are some of the reasons some Americans are so fascinated with cars and seem to be unwilling or reluctant to use them less?

29. Pick one public transportation mode in your community. If you were given $500,000 to spend improving or expanding this mode, how would you spend the money? Be specific. Explain your reasons for how you would spend it.

30. How accessible is the public transportation system in your community to the handicapped (elderly, children, poor, minorities, etc.)? If it is not fullly accessible, how could it be made so? Should tax money be spent making public transportation accessible to the handicapped (elderly, children, poor, minorities, etc.)? Why or why not?

31. What are some of the ways in which buses could operate more quickly and efficiently? Which of these ways could be implemented in your community?

32. What public transportation does your community need? Do some neighborhoods have greater needs than others? Why?

33. Who makes the decisions in your community (or in most communities) about what public transportation services are improved or built? Who makes the decisions about fares, safety, and cleanliness for each of the public transportation modes in your community? Who should make these decisions? What influence does the public have in these decisions? What influences do Federal funds and programs have on these decisions, if any?

34. How can vandalism against public transportation vehicles be prevented--or can't it be? Select a specific example of vandalism, one that has occurred in your community or an imaginary one, and explain what should be done with the offenders and what can be done to prevent its happening again.

BIBLIOGRAPHY

BIBLIOGRAPHY

The Bibliography contains educational materials for teachers and students. It consists of selected

- Teacher materials
- Students materials--many of which teachers can profitably read
- Background publications and books for teachers on public transportation and on related topics covered in the activities in this Manual
- Periodicals

The individual entries in the teacher and student sections are presented in the following format:

**	*Title of Work,* author, date of publication. Number of pages or list of materials. Price.
Type of Material	Description of material with evaluation of material's quality (except for supplementary materials) and relevance for public transportation education.
	Source from which material may be obtained.*

For purposes of convenience, the teacher and student materials have been rated by the designation of stars next to the material description (see sample above). The stars represent the following evaluation.

No stars	Material is useful, but fair
(*) One star:	Material if good
(**) Two stars:	Material is very good
(***) Three stars:	Material is excellent

It should be kept in mind that these evaluations are an estimation of the material's *quality and relevance.*** As such, the absence of a teaching material or a low rating does not per se indicate the material is poor. It may be excellent but simply not very relevant to this Manual's content. In addition, any absences may be due to the authors' oversight.

At the end of the Manual is a list of government agencies that can be contacted for further information about public transportation.

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*Allow ten weeks for delivery of items ordered from the U.S. Government Printing Office.

**A complete discussion of the criteria used to evaluate the materials may be found at the end of the bibliography.

TEACHER MATERIALS

*** *The Voice of the Transportation Consumer: Executive Summary,* 1975. 108 pages. $5.25

Pamphlet/Report

This is a comprehensive and forthright report to the Secretary of Transportation on nationwide consumer public hearings conducted by the (Department of Transportation) Office of Consumer Affairs during 1971-1974. Presents in summary but highly readable fashion the results of 54 hearings conducted in 34 cities and towns. The report analyzes 1280 complete questionnaires received at the hearings. The report covers all aspects of transportation, but indirectly treats public transportation. A full report of the hearing results is also available and runs to 656 pages.

National Technical Information service
5285 Port Royal Road
Springfield, Virginia 22151
Catalog No. PB241764

* *Social and Economic Effects of Highways,* 1974. 180 pages. Free.

Report

A report of the positive and negative effects that modern highways have on individuals, communities, and regions. Report is somewhat technical and requires close attention.

U.S. Department of Transportation
Federal Highway Administration
Office of Program and Policy Planning
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *Carpooling Case Studies,* 1974. 31 pages. Free.

Report

Two articles documenting successful carpool matching experiments, including maps and citizen questionnaires.

U.S. Department of Transportation
Federal Highway Administration
Urban Planning Division
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *Buspools*, 1974. 18 pages. Free.

Report Description of buspools, with a discussion of the criteria for buspool opportunities.

U.S. Department of Transportation
Federal Highway Administration
Urban Planning Division
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *The 3M Commute-a-Van Program: Status Report*, 1974. 50 pages. Free.

Report Description of a system whereby the 3M Company furnishes a 12-passenger van to an employee willing to take at least eight other employees to and from work.

U.S. Department of Transportation
Federal Highway Administration
400 7th and D Streets, S.W.
Washington, D.C. 20590

* *Transportation and the Rural Community*, 1974. 19 pages.

Pamphlet/Report Summary of conference on rural transportation. Report treats present state of rural transit, the relationship between transportation and rural development, and the potential of new technology as a solution to rural problems.

National Technical Information Service
5825 Port Royal Road
Springfield, Virginia 22151

*** *Improving Urban Mobility*, 1975. 30 pages. Free.

Pamphlet Highly creative discussion of ways in which bus service can be improved by manipulating the traffic environment and bus system. Discussion focuses on special bus lanes and streets, improving traffic management, improved scheduling and routing, improved fare collection methods, and alternate vehicle types.

Federal Highway Administration
Urban Planning Division
Transit and Traffic Engineering Branch
Washington, D.C. 20590

** *Access for All: Transportation and Urban Growth,* 1975. 176 pages. $2.45.

Paperback

Stimulating discussion of how transportation availability influences residential, work, and recreational patterns. Thesis is that the introduction of the automobile has resulted in unequal access to transportation and discouraged contact among different socioeconomic groups in society. Book traces the history of public transportation in America. Full of revealing insights into the nature of public transportation, but some readers may find some of the reading heavy and the illustrations (e.g., Boston) parochial.

Penguin Books
7110 Ambassador Road
Baltimore, Maryland 21207
or local bookstore

** *The Accessible City,* 1972. 150 pages. $2.95.

Paperback

Discussion of big city transportation problems, their nature and how they can be solved. Book provides considerable basic factual information on the worldwide and national urban transportation crisis. Main thesis is that transportation must be planned in the context of more important objectives, such as the provision of housing, health, employment, and recreation opportunities.

The Brookings Institute
1775 Massachusetts Avenue
Washington, D.C. 20036
or local bookstore

* *Urban Transportation Needs,* 1972. 56 pages.

Report

Series of eight lectures on various transportation topics. Two are relevant: one on urban transportation needs, an overview of big city transportation problems, and a second on political and institutional factors, financing, and time lag.

Center for New York City Affairs
New School for Social Research
72 Fifth Avenue
New York, New York 10011

** *Transportation Alternatives,* 1972. 55 pages plus appendices.

Report

Study of people's attitudes toward personal use of modes of transportation other than cars. Respondents in four cities, Chicago, New York, Washington, D.C. and Los Angeles, were questioned about their attitudes toward use of transportation modes other than cars in their personal lives--e.g., under what circumstances would they use mass transit to commute to work rather than their car? Interesting study that concentrates on environmental issues of excessive car use. Concludes that people will make minor accommodations to environmental issues (e.g., pay up to $200 for pollution controls on their cars) but will not give up use of cars to any appreciable extent despite financial and other inducements to use other means of transportation.

Student Competitions on Relevant Engineering (SCORE)
c/o Professor J. H. Sonunu
Tufts University
Medford, Massachusetts 02155

*** *Transpo Topics for Consumers* (not dated). 8 pages. Free.

Periodical

Useful quarterly newsletter on a variety of transportation subjects. Discusses such topics as legislation, local transportation programs, new publications and teaching materials.

Department of Transportation
Office of the Secretary
Office of Consumer Affairs
400 Seventh Street, S.W.
Washington, D.C. 20590

*** *Rites of Way: The Politics of Transportation in Boston and the U.S. City,* by Alan Lupo, Frank Colcord, and Edmund P. Fowler, 1971. 294 pages. $3.95.

Paperback

Detailed account of how community opposition in metropolitan Boston forced the state and local governments and quasiindependent commissions to abandon plans to construct freeways in and around the city. Book also discusses who makes transportation decisions in major U.S. cities, the politics of such decisions, and the elements that should be included in comprehensive regional transportation planning. While a unique and fascinating document of one community's struggle and strategies to be heard, some readers may find the level of detail wearing.

Little Brown and Company
34 Beacon Street
Boston, Massachusetts

* *The Urban Transportation Problem,* by J. R. Meyer et al., 1966. 427 pages. $4.50.

Paperback/Textbook

In-depth survey of urban transportation issues. A standard treatment of such issues as recent trends in urban location, highway financing, linehaul systems, and costing procedures. Although generally accessible to the lay reader, several sections require a knowledge of statistics to fully understand.

Harvard University Press
79 Garden Street
Cambridge, Massachusetts 02138
or local bookstore

STUDENT MATERIALS

** *Automotive Fuels and Air Pollution*, 1971. 32 pages. 40¢.

Pamphlet Detailed account for the laymen of automobile pollutants, their effects, and what can be done to eliminate or reduce them.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

* *The Noise Control Act of 1972: Highlights*, 1972. 4 pages. Free.

Flyer Provides background to the legislation and the major provisions of the Noise Control Act.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Transportation Noise and Its Control, 1972. 27 pages. 70¢.

Pamphlet Informative, not too technical discussion of the nature of noise pollution, the decibel unit of measurement, the extent of noise caused by cars, trucks, planes, and rapid transit, and possibilities for reducing or eliminating transportation noises.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Stock Number 50000-0057

** *Transportation Noise Pollution: Control and Abatement*, 1970. 190 pages. $6.00.

Pamphlet Very informative, in places technical discussion of the causes of transportation noise pollution and what can be done about them. Excellent charts, graphs, and cartoons.

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22151
Stock Number N71-15557

*** *Getting Around: People and the City,* 1974. 48 pages. $1.29.

Pamphlet

Informative, thought-provoking case studies and discussions on urban transportation, including commuting, rapid transit, citizen action, dial-a-bus, mass transit, banning cars, and the Bay Area Rapid Transit (BART) in San Francisco. Discussion questions are provided. Well illustrated; photographs.

Scott, Foresman and Company
1900 Eastlake Street
Glenview, Illinois 60025

** *Health Effects of Environmental Pollution,* 1973. 20 pages. 30¢.

Pamphlet

Highly useful overview of the effects of air, water, and noise pollution on human health.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

* *Noise and You,* 1970. 15 pages. 25¢.

Pamphlet

Brief overview of the nature of noise and the dangers of too much and too loud noise. Not tied in specifically with transportation noise. Informative, but in a cartoon format that some students may find condescending or childish.

Channing L. Bete Company, Inc.
45 Federal Street
Greenfield, Massachusetts 03101

* *Air Pollution: The World's Exhaust,* 1971. 62 pages. $1.00.

Book

Overview of the air pollution problem, with discussions of smog, what air pollution is, automobile pollution, health effects, effects on the weather, and who should be responsible for preventing air pollution. Approach is to raise questions rather than present solutions.

Pendulum Press, Inc.
The Academic Building
Saw Mill Road
West Haven, Connecticut 06516

*** *A Citizen's Guide to Clean Air,* 1972. 95 pages. Free.

Pamphlet An extremely useful, detailed account of the clean air laws and how citizens can advocate and plan for the control of air pollution. One chapter deals with auto emission controls, another with the citizen's legal rights, and a third with the citizen's role in policy making.

The Conservation Foundation
1717 Massachusetts Avenue, N.W.
Washington, D.C. 20036

** *Don't Leave It All to the Experts: The Citizen's Role in Environmental Decision Making,* 1972. 19 pages. Free.

Pamphlet Identification of methods by which citizens can protect the environment, including becoming informed, knowing the law, lobbying, fighting for funds, and knowing your rights.

Office of Public Affairs
U.S. Environmental Protection Agency
Waterside Mall
Washington, D.C. 20460

* *Citizen Action Can Get Results*, 1972. 20¢.

Pamphlet Three somewhat superficial case studies of how community political action successfully reduced environmental pollution. One case study on air pollution indirectly involves auto pollution. However, the case studies are useful as examples of citizen action, even though they are not directly related to transportation's environmental effects.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Stock Number 5500-0070

Transportation Consumer's Guide to Programs and Services of the United States Department of Transportation, 1974. 36 pages. Free.

Pamphlet Descriptions of the structure and functions of the several agencies within the Department of Transportation, along with a list of consumer publications each agency has available.

Department of Transportation
Office of Consumer Affairs
400 South Street, S.W.
Washington, D.C. 20590

* *In Productive Harmony: Environmental Impact Statements Broaden the Nation's Perspectives*, 1972. 13 pages. Single copies free.

Pamphlet Describes the provisions of the National Environmental Policy Act of 1970 and the nature of an environmental impact statement, including the Environmental Protection Agency's role in a statement's development.

U.S. Environmental Protection Agency
Office of Public Affairs
Washington, D.C. 20460

* *Citizen Participation in Transportation Planning*, 1973. 142 pages. $5.00.

Booklet Papers from a conference on the Boston Transportation Planning Review which consider issues of citizen participation well beyond the Boston experience. Papers include discussion of the politics of transportation planning, nonwhite viewpoints, rural citizen involvement, and ecological concerns in transportation planning.

Highway Research Board
National Academy of Sciences
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

*** *Getting Involved in Transportation*, 1976. 12 pages. Single copies free.

Pamphlet Describes the nature of environmental impact statements and offers specific suggestions for how the public can become involved in their formulation and in transportation planning in general.

U.S. Department of Transportation
Office of the Secretary
Office of Environment, Safety & Consumer Affairs
400 7th and D Streets, S.W.
Washington, D.C. 20590

* *Rethinking Your Automobile*, 1973. 6 pages. Free

Flyer Brief discussion of consumer's role in reducing use of cars in view of the energy shortage.

Office of Public Affairs
U.S. Environmental Protection Agency
Waterside Mall
Washington, D.C. 20460

** *Ridesharing: A Better Way to Use Cars and Highways* (not dated). 10 pages. Free.

Flyer Discussion of the advantages of carpooling for the environment and energy conservation, how carpooling reduces transportation costs, and how to promote carpooling.

U.S. Department of Transportation
Federal Highway Administration
400 7th and D Streets
Washington, D.C. 20590

** *Transit Fact Book*, 1976. 47 pages. Free.

Booklet Gives brief history of public transportation and provides various statistics on public transportation usage and financing from 1900 to the present.

American Public Transit Association
1100 17th Street, N.W., Suite 1200
Washington, D.C. 20036

* *Innovation in Public Transportation, A Directory of Research, Development and Demonstration Projects*, 1975. $1.85.

Directory Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

BACKGROUND LITERATURE FOR TEACHERS ON PUBLIC TRANSPORTATION AND RELATED TOPICS

Appleyard, Donald et al., *The View from the Road* (MIT Press: Cambridge, Massachusetts, 1964).

Buel, Ronald A., *Dead End: The Automobile in Mass Transportation* (Prentice Hall: Englewood Cliffs, New Jersey).

Department of Transportation, *Conference on Transportation and Human Needs in the 70's* (National Technical Information Service: Springfield, Virginia 22151). Catalog No. PB224925.

Farris & McElhiney, *Modern Transportation: Selected Readings*, Second Edition (Houghton Mifflin: Boston, Massachusetts, 1973).

Howsan, Henry Frederick, *The Rapid Transit Railways of the World* (Allan & Bacon: London, 1971).

Kraft, Gerald et al., *Free Transit* (Heath: Lexington, Massachusetts, 1970).

Lang, A. et al., *Urban Rail Transit* (MIT Press: Cambridge, Massachusetts, 1964).

Levin, Melvin and Norman Abend, *Bureaucrats in Collision, Case Studies in Area Transportation Planning* (MIT Press: Cambridge, Massachusetts, 1971)

Meyer, J.R. et al., *The Urban Transportation Problem* (Harvard University Press: Cambridge, Massachusetts, 1965).

Murray, James J. (ed.), *Urban and Regional Ground Transportation* (Planning - Transport Associates, Inc.: Durham, North Carolina, 1973).

Sampson & Farris, *Domestic Transportation: Practice, Theory and Policy, Second Edition* (Houghton Mifflin: Boston, Massachusetts, 1971).

Smerk, George M. (ed.), *Readings in Urban Transportation* (Indiana University Press: Bloomington, Indiana, 1968).

Stone, Tabor R., *Beyond the Automobile* (Prentice Hall: New York, 1971).

Tass, Leslie, *Modern Rapid Transit* (Carlton Press: New York, 1971).

Transportation for the Handicapped (Center for Transportation Studies, Eagleton Institute of Politics: Rutgers University, 1969).

U.S. Department of Health, Education, and Welfare, *Transportation and Aging: Selected Issues* (Washington, D.C., 1970).

U.S. Department of Health, Education, and Welfare, *Transportation for the Elderly: The State of the Art* (Washington, D.C., 1975).

U.S. Department of Transportation, *Travel Barriers* (National Technical Information Service: Springfield, Virginia 22151, 1971). PB187327.

U.S. Department of Transportation, *Conference on Transportation and Human Needs in the 70's* (National Technical Information Service: Springfield, Virginia 22151, 1971). PB224925.

PERIODICALS

In addition to the periodicals listed below, teachers and students can also consult in libraries the *Reader's Guide to Periodical Literature* for past articles on public transportation.

Highway and Urban Mass Transportation
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

High Speed Ground Transportation Journal
International Society for Terrain-Vehicle Systems
Box 4824, Duke Station
Durham, North Carolina 27706

IRT Newsletter
Institute for Rapid Transit
Suite 508, 1612 K Street, N.W.
Washington, D.C. 20006

Mass Transit
538 National Press Building
Washington, D.C. 20045

Transit Journal
The American Public Transit Association
1100 17th Street, N.W.
Washington, D.C. 20036

Transpo Topics for Consumers
Department of Transportation
Office of the Secretary
Washington, D.C. 20590

Transportation U.S.A.
U.S. Department of Transportation
Office of Public Affairs
400 7th and D Streets, S.W.
Washington, D.C. 20590

GLOSSARY

Articulated bus is two buses joined together to allow a shorter turning radius on city streets. It needs only one driver and can carry 70 people. These buses have been used in Europe for a number of years but they are just now being added to the American public transportation network.

Cable car is a railway vehicle which operates in street traffic. It is propelled by moving cables located below the street surface and powered by engines or motors at a central location not on board the vehicle.

Demand-responsive vehicle is relatively new in American transportation. It has the features of a taxi and a bus and usually looks like a van. People call for service as they do for a taxi, but they pay lower fares and may ride with several other people going to a similar destination.

Double decker bus is a rubber-tired self-propelled vehicle which has two levels enabling it to carry twice as many passengers. It has been used extensively in Europe and is now being reintroduced to American public transportation.

Heavy rail (subway/elevated) is a subway-type railway vehicle constructed on high-level platform stations.

Hydrofoil is a boat which travels on the surface of the water rather than in the water. This enables it to move much faster than ordinary boats.

Light rail (trolley) is the term usually given to the streetcar-type railway vehicle. Light rail is constructed and operates on city streets.

Public transportation refers to all modes of travel which operate within a community (as opposed to modes operating between cities and towns) and which involves vehicles which are publicly owned (e.g., by the government) or owned by private business (e.g., a taxi company) (as opposed to vehicles which are owned by private citizens, including automobiles, bicycles, and recreational vehicles). Public transportation also includes the facilities (e.g., bus stop shelters and ferry docks) which serve public transportation vehicles and passengers.

BIBLIOGRAPHY EVALUATION CRITERIA

All teacher and student materials that were located were evaluated along two dimensions: *quality* and *relevance*. Quality was defined to include the following components:

- Provision of creative and detailed classroom activities or learning experiences that go beyond the one- or two-sentence "have the students do *x, y, z*" suggestions
- Development of decision-making skills that may be transferable to other consumer issues
- Attention to affective educational approaches and objectives, not merely cognitive ones
- Emphasis on student initiative and involvement in classroom activities and in the planning of those activities
- A concern-centered approach that predicates learning on the assessment of student concerns and the development and use of classroom activities that initially deal with those concerns
- The provision of a lucid conceptual framework of transportation and the environment education by which teachers can grasp the field and the interrelationships of its components and by which teachers can develop additional activities and units of their own
- A modular, flexible approach that enables teachers to develop activities and units tailored to the needs of their particular students and community
- Provision of accurate factual information
- A nonmoralistic, noninjunctive approach
- Stress on the needs and problems of minority groups
- An interdisciplinary approach to consumer education

Few curriculum materials combined all these quality ingredients. Many included none or only a few. In some borderline cases where a teaching material contained some quality ingredients, the authors made a subjective evaluation on whether the material contained *enough* of these elements to warrant referencing in the module.

To be considered relevant, a teaching material had to deal in a significant way with transportation and the environment from the point of view of or useful to a consumer. Teaching materials were excluded from the module when their relevance was extremely limited or nonexistent because

- Only a small section of the material dealt with transportation and the environment issues. However, such materials were included when a subsection was of high caliber, dealt with an important aspect of transportation and the environment not covered elsewhere, or was part of an easily accessible and inexpensive unit.
- The material was extremely specific--it dealt with too narrow an aspect of transportation and the environment not covered elsewhere, or was part of an easily accessible and inexpensive unit.
- The material was designed for a highly specialized audience.
- The material was oriented strictly toward career education.
- The material was outdated.
- The material contained information that applied primarily or significantly to a local situation.
- The material was not distributed out of state.

GOVERNMENT INFORMATION AGENCIES

For further information about transportation consumer issues, citizens can contact the appropriate U.S. Department of Transportation or other government agency listed below:

Agency Name and Address	*Telephone Number*[a]
U.S. Department of Transportation 400 Seventh Street, S.W. Washington, D.C. 20590	Office of Public Affairs 202/426-4321
Office of the Secretary of Transportation	Office of Consumer Affairs 202/426-4520
Federal Highway Administration (address above)	Public Affairs 202/426-0648
Urban Mass Transportation Administration (address above)	Public Affairs 202/426-4043
Environmental Protection Agency 404 M Street, S.W. Washington, D.C. 20460	Public Information 202/755-0890

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[a] For specific information consumers may be referred to other numbers.

SPIRIT MASTER #1: FOR USE WITH ACTIVITIES #2 AND #10

CHECK SHEET

Features	Type of Public Transportation						
	Bus	Train	Subway	Taxi	Ferry	Trolley*	Carpool
1) Convenience							
hours							
departure points							
destination (stops)							
2) Safety							
crime							
traffic accidents							
pollution							
3) Expense							
high or low							
compared to automobile							
compared to other PT**							
4) Speed							
frequency of runs							
absolute travel speed							
speed relative to car							
speed relative to other PT**							
5) Comfort							
seating							
crowding							
air conditioning/heat							
6) Privacy							
during rush hour							
off hour							
7) Social Benefits							
energy use							
air/noise pollution							

*Light Rail

**Public Transportation

SPIRIT MASTER #2: FOR USE WITH ACTIVITIES #15 AND #20

PART ONE

(Activity #15)

Read the following paragraph, which is not a true story, and answer the questions at the end of it as honestly as possible.

> The energy and pollution crises have become worse, the President announced on a special television broadcast to the nation last night. As a result, he is asking citizens to voluntarily give up driving their cars two days a week and use public transportation instead. However, he is not asking for legislation to enforce this practice; he wants citizens to agree to it voluntarily. Normally, you drive to work and home every day and also use your car for running errands, taking trips, going to movies, parks, or bowling, and so on. You know that no one would know whether you were giving up use of your car two days a week or not; you could tell people at work that you don't use it on weekends and tell your friends that you don't use it for going to work. Will you, then, abide by the President's request? (Check answer below.)

Yes _____ No _____ Unsure _____

If you said, "Yes," *why* will you abide by the President's request? If you said "No" or "Unsure," or said "Yes," but only reluctantly, *why* are you unwilling or reluctant to conform to the President's request? (Write your answer below.)

PART TWO

(Activity #20)

You have always believed that one of our society's major problems is that people use their cars too much and do not use buses, light rail, ferries, trains, subways, and taxis enough. Just yesterday, the mayor appointed you Commissioner of Transportation for your community. He has told you he fully agrees with your feelings about cars and public transportation. "You develop your plan to promote the use of public transportation and I'll support you 100 percent," he told you when you accepted the job.

He needs a plan from you in half an hour, however, because he is going to a meeting where he wants to present his transportation plans for the next four years. This is the chance you've been waiting for! What steps will you recommend he take to discourage people from using their cars so much and motivate them to use public transportation more? (Write your answer below.)

SPIRIT MASTER #3: FOR USE WITH ACTIVITY #23

SAMPLE GENERAL POLL OF CONSUMER SATISFACTIONS WITH AND COMPLAINTS AGAINST PUBLIC TRANSPORTATION SYSTEMS

1) Age: Under 12 ___ 12-18 ___ 19-29 ___ 30-59 ___ Over 59 ___

2) Sex: Male _____ Female _____

3) Do you drive a car? Yes _____ No _____

4) How often do you use each of the following forms of public transportation?

Type of Public Transportation	*Never*	*Once or Twice a Month*	*Once or Twice a Week*	*Several Times a Week*	*Nearly Every Day*
Bus					
Commuter Train					
Subway					
Ferry					
Taxi					
Light Rail (Trolleys)					

5) When you use public transportation, do you find it to be satisfactory in terms of:

(a) Safety? Yes __ No __
(b) Comfort? Yes __ No __
(c) Convenience? Yes __ No __
(d) Speed? Yes __ No __
(e) Privacy? Yes __ No __
(f) Expense? Yes __ No __
(g) Accessibility? Yes __ No __
(h) Availability? Yes __ No __

6) Have you any general complaints about public transportation services in terms of:

(a) Safety? Yes __ No __
(b) Comfort? Yes __ No __
(c) Convenience? Yes __ No __
(d) Speed? Yes __ No __
(e) Privacy? Yes __ No __
(f) Expense? Yes __ No __
(g) Accessibility? Yes __ No __
(h) Availability? Yes __ No __

7) Do you have any specific grievances against a public transportation service? If so, what are the most serious complaints?

8) Have you done anything about your grievance? If so, what have you done? What have the results of your actions been?

9) If you have not done anything, why not?

SPIRIT MASTER #4: FOR USE WITH ACTIVITIES #27 AND #29

PART ONE
(Activity #27)

You are the local transit board in your community and are responsible for running the city's bus system. The town council has provided you with an appropriation of $100,000 to spend as you see fit on the bus system next year. In addition, you can expect to take in $150,000 in fares in the next year.

You must now make two decisions:

1. What are the specific items involved in running a bus system which will cost money?
2. How much money will you provide from your total of $250,000 for each of these items?

The town council needs your answer soon. How do you answer these questions?

PART TWO
(Activity #29)

You are in a committee meeting with three other members of the town subcommittee on transportation. Your committee makes recommendations to the town council on all transportation issues for your community. Generally, the town council goes along with anything your committee recommends. The town budget has appropriated __________________ which must be spent on public transportation.* You are in session right now, and have 30 minutes in which to decide what to spend the money on and report your decision to the town council. You must also be prepared to defend your decision to the council, where there are sure to be some tough questions about your choice. What do you say the money should be spent on?

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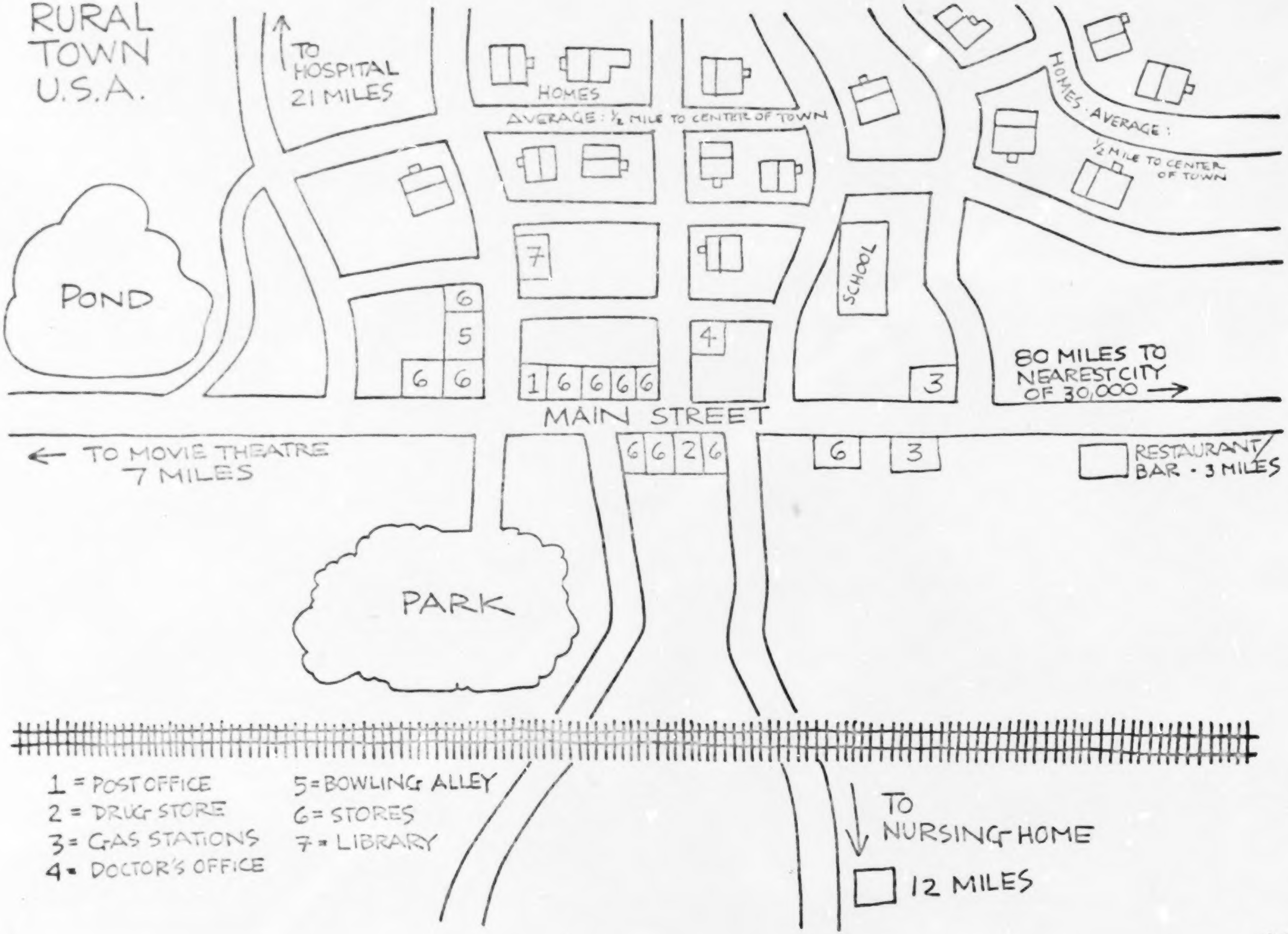
*Insert an amount of money appropriate to the size of the community; for example, population 50,000: $100,000; 200,000: $500,000; 500,000: $2 million; 1 million: $5 million; etc.


RURAL TOWN U.S.A.
TO HOSPITAL 21 MILES
HOMES
AVERAGE: ½ MILE TO CENTER OF TOWN
HOMES · AVERAGE: ½ MILE TO CENTER OF TOWN
POND
7
6
5
6
6
1
6
6
6
6
4
SCHOOL
3
80 MILES TO NEAREST CITY OF 30,000
MAIN STREET
TO MOVIE THEATRE 7 MILES
6
6
2
6
6
3
RESTAURANT/BAR - 3 MILES
PARK
TO NURSING HOME
12 MILES
1 = POST OFFICE
2 = DRUG STORE
3 = GAS STATIONS
4 = DOCTOR'S OFFICE
5 = BOWLING ALLEY
6 = STORES
7 = LIBRARY

SPIRIT MASTER #5: FOR USE WITH ACTIVITY #32

SPIRIT MASTER #6: FOR USE WITH ACTIVITY #34

CHART INDICATING PROBLEMS CERTAIN GROUPS MAY HAVE USING PUBLIC TRANSPORTATION

Transportation Feature by Mode	*Handi-capped*	*Blind*	*Elderly*	*Poor*	*Minor-ities*	*Rural*	*Young*
Buses							
Convenience							
Safety							
Expense							
Speed							
Comfort							
Privacy							
Accessibility							
Availability							
Commuter Trains and Trolleys (Light Rail)							
Convenience							
Safety							
Expense							
Speed							
Comfort							
Privacy							
Accessibility							
Availability							
Subways							
Convenience							
Safety							
Expense							
Speed							
Comfort							
Privacy							
Accessibility							
Availability							
Taxis							
Convenience							
Safety							
Expense							
Speed							
Comfort							
Privacy							
Accessibility							
Availability							
Ferries							
Convenience							
Safety							
Expense							
Speed							
Comfort							
Privacy							
Accessibility							
Availability							

SPIRIT MASTER #7: FOR USE WITH ACTIVITY #41

SAMPLE SPECIFIC POLL ON CONSUMER SATISFACTION WITH AND COMPLAINTS ABOUT BUS TRANSPORTATION

1) Age: Under 12 ___ 12-18 __ 19-29 __ 30-59 __ Over 59 __

2) Sex: Male _______ Female _______

3) Do you drive a car? Yes _______ No _______

4) How often do you uses buses for everyday transportation needs?

Never ___ Rarely ___ Once or twice a month ___ Once or twice a week ___ Several times a week ___ Nearly every day ___

---

5) When you use buses, do you find all of the following to be satisfactory as a rule?

(a) Safety? Yes __ No __
(b) Comfort? Yes __ No __
(c) Convenience? Yes __ No __
(d) Speed? Yes __ No __
(e) Crowding? Yes __ No __
(f) Expense? Yes __ No __
(g) Reliability? Yes __ No __

6) Have any of the following happened to you several times while traveling by bus?

(a) Bus doesn't show up at all. Yes __ No __
(b) Bus is late arriving or reaching its destination. Yes __ No __
(c) Bus is dirty inside--floor or seats. Yes __ No __
(d) Operator is discourteous or uses insulting language. Yes __ No __
(e) Operator drives illegally or dangerously, such as:
  i) Speeds Yes __ No __
  ii) Tailgates Yes __ No __
  iii) Runs red lights or stop signs Yes __ No __
  iv) Fails to stop completely at railroad tracks Yes __ No __
  v) Fails to come to a complete stop to let passengers leave or enter bus Yes __ No __
(f) You have been robbed or threatened. Yes __ No __

7) Which, if any, of these occurrences do you feel are serious flaws in the bus system's service?

8) If you feel none of them is serious, skip to question 11. If you feel one or more of them are serious, have you done anything about the problem? Yes __ No __

9) If you haven't, skip to question 11. If you have, what have you done and what have been the results of your action(s)? (Then skip to question 8.)

10) If you haven't, why not?

11) In general, how would you rate bus service in your community?
Poor ___ Fair ___ Good ___ Excellent ___

SPIRIT MASTER #8: FOR USE WITH ACTIVITY #42

SAMPLE POLL ON THE PUBLIC'S VIEWS ON PUBLIC TRANSPORTATION NEEDS IN THE COMMUNITY

Sex: Male ____ Female ____

Age: Under 12 ___ 13-17 ___ 18-29 ___ 30-39 ___ 40-59 ___ 60-69 ___ 70+ ___

Do you drive a car regularly? Yes ___ No ___

Section of the community in which you live: ______________________________

Current use of public transportation: Never __ Rarely __ Monthly __ Weekly __ Daily ___

---

1) What do you feel is the *single* most pressing need in the community in terms of additional public transportation services? (Check only *one*.)

Additional bus service __
Ferry service or hydrofoils* __
A subway system __
Rapid transit system __
Light rail (trolleys) __
Expansion of subway service __
More taxis __
Additional commuter train service __
Carpooling __
Other (specify:) ______________________

2) What other public transportation services do you feel are also needed?

3) What section(s) of the community do you feel are most in need of these additional services?

4) If the additions to the public transportation system which you have suggested were made, how much less often would you use your car?

No less often at all __
Once or twice a month less often __
Once or twice a week less often __
Almost every day less often __

5) Would you use public transportation more if it were less expensive? Yes __ No __

6) Would you be willing to support the expansion of the public transportation system through any of the following methods?

Increased tax rate of $3 per person: Yes __ No __
Increased tax rate of $15 per person: Yes __ No __
Higher fees on parking meters: Yes __ No __
A tax on parking garages: Yes __ No __

7) Which, if any, of the following improvements in public transportation services would motivate you to use these services more than you do now? (Check *all* that apply.)

Safer vehicles in terms of crime __
More stops along the bus routes __
Cleaner vehicles and stations __
Special bus lanes __
Faster vehicles __
Air conditioning __
More seats __
Less crowding __
Other (specify:) ______________________

8) Which two of these improvements would encourage you the most to use public transportation more than you presently do?

---

*Boats which move at high speeds across the top of the water, propelled by an airplane-like propeller in the rear.

SPIRIT MASTER #9: FOR USE WITH ACTIVITY #42

The poll below was distributed to passengers on buses in a U.S. Department of Transportation funded study.* However, students may find it useful to select questions from it which suit their particular research needs.

	Agree	Disagree	No Opinion
1. Most of the time the buses are on schedule.	_____	_____	_____
2. It is usually difficult to find which bus to take.	_____	_____	_____
3. The buses are uncomfortable.	_____	_____	_____
4. A young child riding alone would usually be safe on the bus.	_____	_____	_____
5. The bus comes by often enough on weekdays.	_____	_____	_____
6. I need to transfer buses to reach my destination.	_____	_____	_____
7. Bus schedules are difficult to find.	_____	_____	_____
8. It is easy to call the bus company for information.	_____	_____	_____
9. I do not feel safe on the buses.	_____	_____	_____
10. Buses go where I need to go.	_____	_____	_____
11. The buses are not kept clean.	_____	_____	_____
12. The buses come by often enough on weekends.	_____	_____	_____
13. Bus stops are not well marked.	_____	_____	_____
14. The bus schedules are easy to reed.	_____	_____	_____
15. I am not protected from the weather while waiting for the bus.	_____	_____	_____
16. I would ride the bus by myself at night.	_____	_____	_____
17. The bus drivers are not courteous.	_____	_____	_____

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*Taken from "The Effect of Improved Service on the Bus Transit Ridership in the Greater Lafayette Area," by John C. Merritt.

SPIRIT MASTER #10: FOR USE WITH ACTIVITY #45

CASE STUDY OF A PROPOSED PUBLIC TRANSPORTATION IMPROVEMENT

Read the following case study and analyze it in terms of what kinds of opposition are likely to exist or develop against the plan, why such opposition may arise, and how transportation planners and citizens who favor the improvement might counter such opposition.

Smithsville, U.S.A.--a typical city with a population of about 400,000 and a twice-daily traffic jam during the morning and evening rush hours. With the typical problems the poor, the elderly, and the handicapped face trying to get around the city. However, the Citizens for Better Transportation (CBT) has come up with a suggestion for improving the traffic problems of Smithville. The CBT believes that if the city would provide special traffic lanes for buses on the major highways going in and out of the city during rush hours along with increased bus service during those times of the day, some of the rush hour problems could be solved. As part of its plan, the CBT also would like to see:

- Fares on all buses eliminated for the elderly;
- An additional 50 buses put into service:
- Ten new bus routes developed to service the poor communities better;
- A tax on automobile parking lots in the city by which to pay for the buses and make up for the loss in revenues from free fares for the elderly;
- An increase of $5 per $1,000 in the excise tax on automobiles; and
- Only carpools allowed to drive on the main highways leading into and out of the city during rush hours.

Obviously, this plan is going to stir up a lot of opposition in Smithsville. However, the CBT is a persistent group that doesn't give up easily. It realizes it's going to have to plan its campaign very carefully if it is to succeed. It will have to:

1. Decide what kinds of people and groups are likely to oppose its plans;
2. Why these people or businesses or agencies will oppose it;
3. What it can do to overcome their opposition; and
4. What allies it can expect to find among citizens, the government, politicians, and business.

What would *you* say are the answers the CBT came up with to each of these four questions?